This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

TRANSPORTATION LIBRARY
HE
2721
.029
1884

A 755,991

THE OFFICIAL

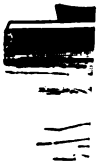
RAILWAY LIST.

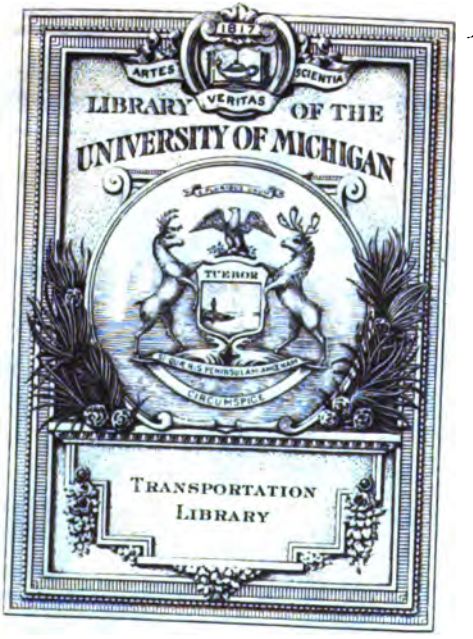
1884.

LLIOT'S PATEN[illegible] AND CROSSINGS.

FROGS AND [illegible]GLE DESIRED.

SWITCHES
OF VARIOUS KINDS,
SWITCH STANDS,
—AND—
RAILROAD IRON WORK GENERALLY.





Number of Frogs Made to January 1, 1884, 20,197.
Number of Crossings Made to January 1, 1884, 792.

Rails of all Sizes and Sections.

These Frogs and Crossings are made of [illegible] it great strength and durability witho[illegible] running rail without any cutting of ties [illegible]on broad and narrow gauge railroads t[illegible]ease to rolling stock in passing over them.

[illegible]ound together transversely with strong bolts, which [illegible] Fishplate Joints, and lie on the same tie surface as [illegible]ce in track. There are now over *21,000* of them in [illegible]oad men who have them in use, for their durability

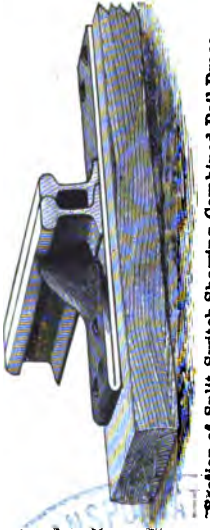
Manufactured by H. & H. ELLIOT, East St. Louis, Ill.

This constructidly bent Steel bearing surface rolled steel fillcrossing than tween it and the

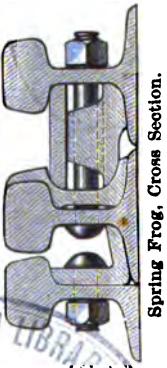
tion of any destred angle of Rail Corners and inside guard. than any other style of manning completes a more elastic has heretofore been made. No ties.

Crossing having solpresents a greater facture, and with the and more durable plates required be-

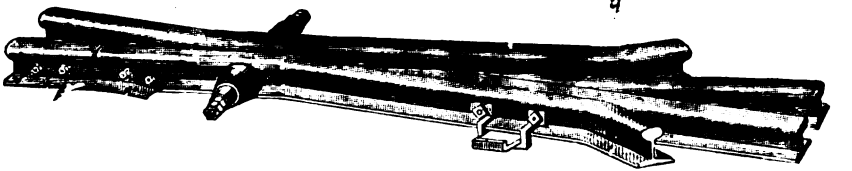
A



Section of Split Switch Showing Combined Rail Brace and Friction Plate.



Spring Frog, Cross Section.



Spring Frog, Rolled Steel Filling and Spring Wing Rail reinforced by Wrought Iron Angle Bar.

THE WEIR FROG CO.,

MANUFACTURERS OF

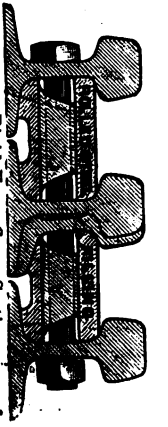
FRED. C. WEIR'S IMPROVED

Steel Rail Frogs

Crossings, Split and Stub Switches, Switch Stands, Wrought Iron Head Chairs, Wrought Iron Rail Braces or Brace Chairs, Wrought Iron Combined Friction Plate and Rail Brace for Split Switches, Switch Bars and Switch Fixtures. All parts made by machinery in dies, and perfectly interchangeable. Photos and estimates furnished on application. Address

THE WEIR FROG CO.,

Works: Front, Smith and Water Streets, CINCINNATI, O.



Rigid Frog, Cross Section.

Fixed or Rigid Frog, with Rolled Steel Filling.

Wrought Iron Rail Brace.

TRANSPORTATION LIBRARY
UNIVERSITY OF MICHIGAN

CULVERT PIPE,

DOUBLE STRENGTH.

FIRST PREMIUM

— AT —

National Exposition of Railway Appliances.

CHICAGO, 1883,

This pipe is in use on over one hundred railroads, and is endorsed by leading railroad men as the best and cheapest thing in use for small culverts under railroad tracks. Send for illustrated catalogue and testimonials.

BLACKMER & POST, Mfr's,

714 Pine Street, - - - - - ST. LOUIS, MO.

ROCHESTER MACHINERY MF'G CO.,

G. S. WORMER & SONS. Props.

38 and 40 South Canal St., Chicago, Ill.
Branch, 807 North 2d St., St. Louis, Mo., and 55, 57 & 59 Woodbridge Street, Detroit, Mich.

Improved Single or Double Cylinder —Single or Double Friction Drums or Reversible Link Motion.

HOISTING ENGINES

And specially adapted to Pile-Driving, Pumping, Hoisting Timber, Brick, Mortar, Stone, Coal, Slate, Ores, Iron, Cargo Ballast. Also for steamers, Ships, Lighters, Barges, Docks, Warehouses Stevedores, Contractors, Railroads, Mines, Quarries, Etc., Etc.

Send for Special Catalogues.

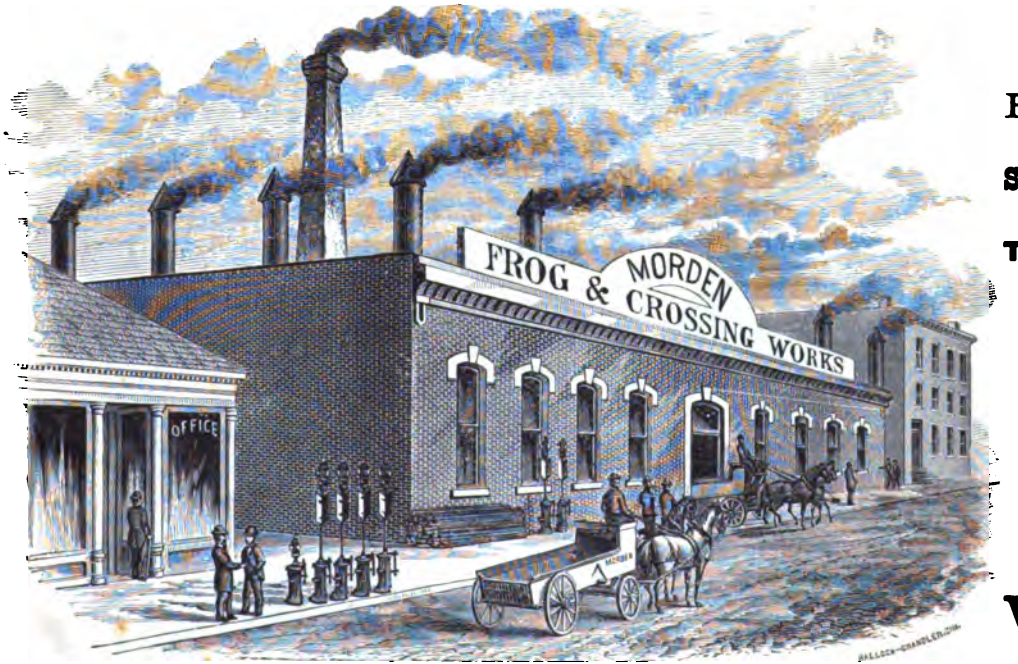
WE MAKE 180 DIFFERENT SIZES AND KINDS.

Improved Portable and Stationary Engines — Portable, Stationary and Vertical Rollers, Saw Mills and Machinery.

On application will be pleased to send you catalogue of what you may want in the shape of machinery.

Say where you saw this.

MORDEN FROG AND CROSSING WORKS,



MANUFACTURERS OF

MORDEN'S PATENT

FROGS and CROSSINGS,

SWITCH STANDS,

HEAD CHAIRS,

TIE BARS

AND

TRACK SUPPLIES.

IN GENERAL.

OFFICE:

234 South Clark Street,

(Grand Pacific Hotel);

WORKS:

66-72 Pacific Avenue,

— AND —

South Chicago, Ill.

W. J. MORDEN,

President & Gen. Manager.

UNION STONE COMPANY, BOSTON, MASS.,

CATALOGUE
ON
APPLICATION.

Patentees and Manufacturers of the

UNION EMERY WHEEL.

Emery Wheel Machinery and Tools a Specialty.

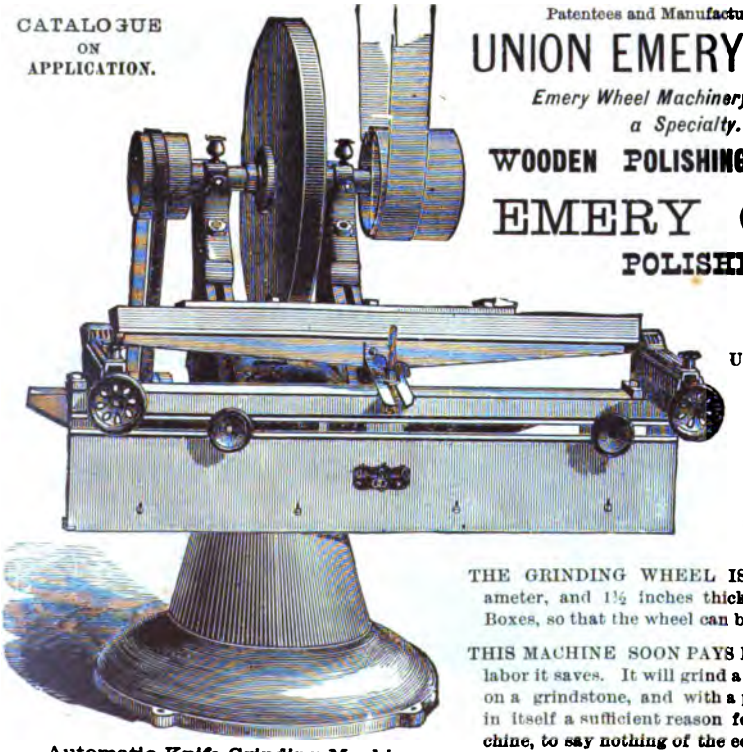
WOODEN POLISHING WHEELS.

The Diamond Tool, for Dressing or Trueing Emery Wheels.

EMERY QUARTZ CORUNDUM,

POLISHING BELTS, BELT MACHINES.

Grinders' and Polishers' Supplies of all Kinds.

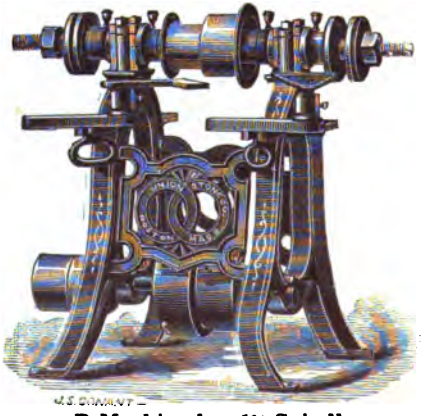


Automatic Knife Grinding Machine

UNION STONE COMPANY'S Patent and Improved Automatic Knife Grinding Machine, for grinding planing machine knives, book binders' currier, long knives and shears of all kinds. Size, 24, 36, 50, 80, 100 and 120 inches.

THE GRINDING WHEEL IS 26 INCHES IN DIAMETER, and 1½ inches thick, with Patent Sliding Boxes, so that the wheel can be entirely used up.

THIS MACHINE SOON PAYS FOR ITSELF IN THE labor it saves. It will grind a knife in less time than on a grindstone, and with a perfectly straight edge in itself a sufficient reason for purchasing the machine, to say nothing of the economy.



D Machine has 1¼ Spindle.

THE OFFICIAL RAILWAY LIST:

A DIRECTORY

OF THE

Presidents, Vice Presidents, General Managers and Assistants, General and Division Superintendents, Chief Engineers, Secretaries, Treasurers, Auditors, General Freight Agents, General Passenger and Ticket Agents, Baggage Agents, Purchasing Agents, Fuel Agents, Master Mechanics, Master Car-Builders, Master Foremen of Locomotive and Car Repairs, Car-Painters, Roadmasters, Etc.,

OF RAILWAYS IN NORTH AMERICA,

AND THE AMOUNT OF ROLLING STOCK OF EACH ROAD,

To which are appended some Valuable Practical Tables and Much General Information for the use of Railway Men.

PUBLISHED BY THE RAILWAY PURCHASING AGENT CO.

WILLARD C. TYLER, Manager.

1884.

162 LA SALLE ST., CHICAGO.

PREFACE.

The reception accorded the previous editions of this work has been such as to warrant the publishers in declaring it to be a permanent institution. They have endeavored to publish a book which should be of practical use to all classes of railway officials, and to all who are interested in railway matters. Hundreds of letters of thanks and congratulations have been received, which show us that our efforts have been appreciated. The present edition contains more information, and is, therefore, somewhat larger. This increase in size is not so great as to impair the convenience of the book either for pocket or desk, and it is our intention always to keep it small enough to be "handy."

Among the new information contained, the most important is the amont of rolling stock belonging to each road. With a very few exceptions this information has been obtained from direct sources, but in a few cases we have been obliged to make estimates which may be only approximately correct. In the number of "passenger cars" is included all that rolling stock which is used in passenger trains, viz.: baggage, express, mail cars, etc.

A copy of this book will be sent post paid, free of charge, to every railway official whose name is in it. As it is owing to the courtesy and liberality of the advertisers that we are enabled to do this, we feel warranted in asking especial attention to the advertisements. They embrace the entire field of railway supplies, and alphabetical and classified indexes render them easy of reference. Should you have occasion to write to any of them, it will be a kindness to us and them if you will mention having seen their advertisements in this book.

A list of changes among railway officials is published monthly in THE RAILWAY PURCHASING AGENT AND SUPPLY TRADE JOURNAL. Railway officials will greatly oblige us by sending all circulars announcing resignations, elections and new appointments as soon as issued. The publishers will also be obliged for any suggestion looking to the improvement of this publication.

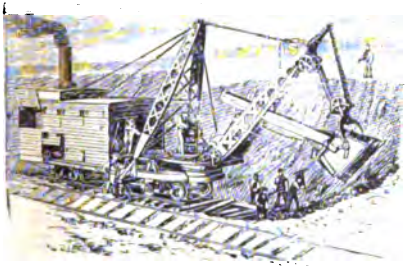
THE RAILWAY PURCHASING AGENT COMPANY,

Chicago, March 1, 1884. WILLARD C. TYLER, Manager.

Transp. Lib.

OSGOOD DREDGE CO.

R. R. Osgood, Pres. Jas. MacNaughton, Vice Pres. John K. Howe, Sec'y and Treas.



COMBINED STEAM EXCAVATOR AND DERRICK CAR.

NO. 1, WEIGHT 40 TONS,
Capacity 6 Cubic Yds. per Minute.

NO. 2, WEIGHT 28 TONS,
Capacity 3 Cubic Yds. per Minute.

These Excavators have proved very efficient and durable in the hardest hard-pan.

BUILDERS OF THE

Patent Osgood Boom Dredges,

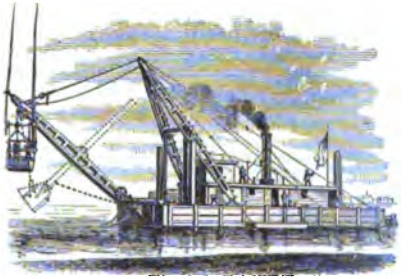
STEAM EXCAVATORS,

DITCHING MACHINES, ETC.

CIRCULARS FURNISHED.

OFFICES:

37 State Street, - - ALBANY, N. Y.
43 Astor House, - NEW YORK CITY.



COMBINATION DREDGE.

DREDGES

guaranteed to excavate 50 per cent. more material from hard bottom than any other machine.

CONTENTS.

The List of the officers of railways in the United States, Canada and Mexico is arranged in alphabetical order, beginning with page 1, and therefore easily referred to.

The miles operated, number of locomotives, passenger cars, freight and miscellaneous cars, follow the name of each road.

A Directory, giving the street and number of all of the general officers of railway companies, associations, etc., in the larger cities, begins on page 158, and is also arranged in alphabetical order.

	Page.
Sleeping Car Companies	147
State Railroad Commissions	151
Railroad Associations, their officers, headquarters, dates and places of convention in 1884	150

MISCELLANEOUS TABLES.

	Page.		Page.
Altitude of Places	149	Population of Cities	147
Ballast, per mile	155	Postage Rates	150
Board Measure	159	Ropes, strength	156
Brick, number per square foot	157	Rails, per mile	153
Bushel measure by weight	156	Rails, Joints, Splices, etc	153
Capacity of Engines	155	Spikes, weight, etc	153
Combustion of Fuels	159	Spikes, size, etc	153
Contents of Tanks	157	Tanks	157
Drawing Paper, sizes	158	Ties, cubic ft	155
Electricity, conductivity	158	Ties, per mile	153
Fence Boards	159	Timber Measure	158
Glass, panes per box	158	Weights and Measures	162-163
Grades, rise per mile	157	Wind, force of	157
Metals, properties of	160	Wood, properties of	160
Materials, properties of	161		

Twelve pages of ruled memorandum paper are included in the back end of the book.

HOWARD IRON WORKS

BUFFALO - - N. Y.,

MANUFACTURERS OF SCHLENKERS'S

Automatic Revolving-Die

BOLT CUTTER

—AND—

NUT-TAPPING MACHINE,

Especially Adapted for Railroad Work.

D. J. CHASE, President.
W. A. COOPER, Vice Pres. and Manager.
H. V. HINCKLEY, Sec'y and Treas.

THE STANDARD SWITCH CO.

ROBINSON SWITCH STAND
BEARD SWITCH STAND.
W. A. C. WROUGHT HEAD CHAIR.

TOPEKA, KAN.

Boltless and Interchangeable Connecting Rods. Revolving Signal Ground Switches. Exact Throws. Joints that are horizontally stiff and true, and vertically elastic—instead of the reverse. Non-breakable Chairs. A saving of rolling stock and of 50 per cent. of repairs over other switches.

PETTIBONE & MULLIKEN,
180 & 190 Washington st., - CHICAGO,

Sole agents for Ill., Ind., Iowa, Neb., Dak., Minn., Wis., Mich., Ohio, Ky. and Tennessee.

Works at Chicago, Buda and Kansas City. Four Patents, all reported O. K. by Western Railroad Association. Our goods adopted by many of the prominent roads. Send for circulars.

CRANES

WESTON'S PATENTS.

EVERY TYPE.

ANY CAPACITY.

FOR HAND OR POWER.

THE YALE & TOWNE MFG. CO.,

SOLE MAKERS,

Principal Office and Works, Stamford, Conn.

OFFICES:

NEW YORK, 62 Reade Street. | **BOSTON,** 224 Franklin St. | **PHILADELPHIA,** 15 N. Sixth St. | **CHICAGO,** 64 Lake Street.

JUST OUT.—A preliminary illustrated and descriptive circular of the various types of cranes made by us, mailed on application.

ALPHABETICAL INDEX—ADVERTISERS.

PAGE.

Abendroth & Root Mfg. Co., New York..... 2
Ajax Metal Co., Philadelphia..... 90
American Store Stool Co., Chicago..... 166
Andrews & Clooney, New York..... 98
Andrews, & Co., A. H. Chicago..... 171
Andrews, D. H., Boston..... 12
Anglo-American Roofing Co., New York..... 98
Automatic Traction Draw-Bar Co., Albany.... 106

Barnum Wire & Iron Works, E. T., Detroit, Mich.....between 128 & 129
Beland Track Drill Co..... 30
Billmeyer & Small Co., York, Pa..... 126
Blackmer & Post, St. Louis..... ii
Brown & Sharp Mfg. Co', Providence..... xvii
Bucyrus Foundry & Mfg. Co., Bucyrus, O..... 74
Burkhardt's Sons, Geo. J. Philadelphia..... 156

PAGE.

Cambria Iron Co., Johnstown, Pa..... 28
Cameron Steam Pump Wks, A. S., New York. 154
Carpenter & Co. Geo. B., Chicago..... 106
Cary, Ogden & Parker, Chicago..... 50
Cayuta Wheel & Foundry Co., Waverly, N. Y. 122
Chicago Car Seal Co., Chicago..... xq
Chicago Rubber Works, Chicago..... 34
Chicago Tyre & Spring Works, Chicago..... 12
Copeland & Bacon, New York..... 8
Cowell Platform & Coupling Co., Cleveland.... 54
Crane Bros. Manufacturing Co., Chicago..... 92
Crocker, L. O., East Braintree. Mass..... 6

Davidson & Blondel, New York..... 96
Dayton Malleable Iron Co., Dayton, O..... 40
Deane Steam Pump Co., Holyoke, Mass..... 146
Deeds Nut Lock Co., Terre Haute, Ind..... 90

PAGE.

De Golyer & Bro., Chicago..... 80
Delamater & Co., C. H., New York..... 34
Devoe & Co., F. W., New York..... 54
Diamond State Car Spring Wks, Philadelphia xiii
Dreyfus, Bernard, New York..... 68
Dudgeon, Richard, New York..... 126
Eames Vacuum Brake Co., Watertown, N. Y.. 80
Elliot, H. & H., East St. Louis, Ill..inside first cover
Ellwood, & Co., I. L., De Kalb, Ill..... 14
Empire Portable Forge Co, Cohoes, N. Y 6
Emley & Co., Indianapolis..... 114
Ensign Manufacturing Co., Huntington, West Va.....last fly leaf.

Fairbanks, Morse & Co., Chicago...between 26 & 27
Farrel Foundry & M. Co., Ansonia, Conn.... 114
Flanders Machine Works, L. B., Philadelphia. 100

ALPHABETICAL INDEX, ADVERTISERS—Continued.

	PAGE.
Forsyth Scale Co., Youngstown, O	xi
Fowler Rolling Mill Co., Chicago	152
Frost & Adams, Boston	40
Guarantee Co. of North America, Montreal	xv
Hamilton, T. H., Toledo, O	36
Harlan & Hollingsworth Co., Wilmington, Del.	100
Hill, Warren, Boston	6
Horton & Son Co. The E., Windsor Locks, Ct.	146
Howard Iron Works, Buffalo	viii
HP. Nail Co, Cleveland	132
Hunt, Geo. W., New York	94
Hussey & Co., C. G., Pittsburgh	54
Iron-Clad Paint Co., Cleveland	42
Jersey City Iron Works, Jersey City	171
Johns Manufacturing Co., H. W, New York	xix
Johnson Railway Heater Co., Boston	42
Justice & Co., Philip S., Philadelphia	72
Kalamazoo Rd. Velocipede Co., Kal., Mich	132
King Varnish Co., Akron, O	68
Knoxville Car Wheel Co., Knoxville, Tenn	122
La Fayette Car Works, La Fayette, Ind	110
Lalance & Grosjean Mfg. Co., Chicago	94
Leng, John S., New York	last cover
Le Roy, Journal-Bearing Co., New York	62
Loucks, A. D, New York	92
Lowell Wrench Co., Worcester, Mass	145
Maher & Brayton, Cleveland	84
Mason, Chas. C., Altoona, Pa	26
McAllister, W. Mitchell, Philadelphia	xi
McLeod's Railroad Air Signal Co., Boston	154
Meneely & Co., Geo. R., W. Troy, N. Y	10
Mercer Nut Lock Co., West Chester, Pa	145
Metcalf, Paul & Co., Chicago	38
Meyers M'f'g Co., Fred. J., Covington, Ky	98
Millener, Joel H., Buffalo, N. Y	122
Miller, Metcalf & Parkin, Pittsburgh	32
Morden Frog & Crossing Works, Chicago	III
National Safety Paper Co., N. Y. between	112 & 113
National Tube Works, Boston	56
New Albany Steam Forge, New Albany, Ind	xi
Osgood Dredge Co., Albany, N. Y	VII
Pardee, Snyder & Co., Watsontown, Pa	26
Parrott Varnish Co., Bridgeport, Ct	8
Pearsall, G. F. E., Brooklyn, N. Y	154
Pennsylvania Steel Co., Steelton, Pa	110
Pittsburgh Locomotive Works, Pittsburgh	36
Pittsburgh Supply Co., Pittsburgh	169
Poage, John N., Cincinnati	20
Post & Co., Cincinnati	76
Pratt & Letchworth, Buffalo, N. Y	140
Preston & Co., E. B., Chicago	104
Prosser, Thos., & Son, New York	xvii
Railroad Gazette, New York	70
Railway Review, Chicago	163
Ramapo Iron Works, Hillburn, N. Y	136
Ramapo Wheel & Foundry Co., Ramapo, N. Y.	136
Rand Drill Co., New York	4
Remington Agricultural Co, Ilion, N. Y	96
Rendle, Arthur E., New York	xi
Roberts, A. and P., & Co., Philadelphia	xx
Ryan J. J., & Co., Chicago	34
Salmon Water & Steam Heater Co., Boston	149
Sellers & Co., Morris, Chicago	58 & 50
Sidney Steel Scraper Co., Sidney, O	146
Smith, Edw., & Co., New York	38
Smith, Geo. A., Richmond, Va	50
Standard M'f'g Co., Ft. Wayne, Ind	92
Standard Steel Works, Philadelphia	xix
Standard Switch Co, Topeka, Kan	viii
Strack & Angell, Ft. Wayne, Ind	90
Stroud, Sibbald & Co., New York	62
Swift Automatic Lubricator Co., Elmira, N. Y	26
Taylor, N. & G., Co., Philadelphia	145
Terhune, John, Midland Park, N. J	118
Tippett & Wood, Phillipsburg, N. J	140
Totten & Co., Pittsburgh, Pa	24
Tudor Iron Works, St. Louis	24
Tuttle & Whittemore Co., Naugatuck, Conn	88
Union Stone Co., Boston	iv
Valley Machine Co., Easthampton, Mass	50
Vulcanized Fibre Co., Wilmington, Del	172
Warren, Andrew, St. Louis	30 & 46
Washburn & Moen M'f'g Co., Worcester, Mass	108
Watson & Stillman, New York	94
Weir, Fred. C., Cincinnati	i
Westinghouse Machine Co., Pittsburgh	18
Whitman & Barnes M'f'g Co., Akron, O	20
Williams, I. A., & Co., Utica, N. Y.	inside last cover
Williams, White & Co., Moline, Ill	24
Wormer, G. S., & Sons, Chicago	ii
Worthington, H. R., New York	10
Yale & Towne M'f'g Co., Stamford, Ct	ix
Young & Sons, Philadelphia	20

RENDLE'S GLAZING WITHOUT PUTTY.

For Skylights for Depots, Workshops, Etc.

Some of the principal stations glazed in Great Britain: Carlisle Citadel, 372,000 sup. ft. of glass; Gordon St., Glasgow, 130,000 ft.; Bridge St., Glasgow, 100,000 ft.; Dundee, 100,000; Gorton, 74,000 ft., etc.

Illustrated Catalogue, Photographs, Etc., sent free on application to **ARTHUR E. RENDLE, 10 Horatio St., New York.**

NEW ALBANY STEAM FORGE

New Albany, Ind.

MANUFACTURERS OF

J. B. WINSTANDLEY, President.
GEO. E. SACKETT, Secretary.
J. T. WRIGHT, Superintendent.

THE FORSYTH SCALE CO.,

MANUFACTURERS OF

SCALES,

LETTER and MANIFEST PRESSES,

Trucks and Baggage Barrows,

YOUNGSTOWN, OHIO.

Chicago Office: - - - 38 River Street.

ENGINEERING DRAWING MATERIALS, **BLUE PROCESS PAPER.**

INSTRUMENTS, TRANSITS, LEVELS. **SURVEYING MATERIALS.**

OF ALL KINDS,

Drawing Paper, Tracing Cloth, Chains, Tapes, Etc.

Catalogues on application.

W. MITCHELL McALLISTER, OPTICIAN,

Established 1783.] No. 728 Chestnut Street. PHILADELPHIA.

CLASSIFIED INDEX.

	PAGE.
AIR BRAKES—	
Eames Vacuum Brake Company	80
AIR COMPRESSORS—	
Rand Drill Company	4
ANTI-FRICTION METAL—	
J. J. Ryan & Co	34
The Ajax Metal Co	90
AXLES—	
Andrews & Clooney	98
Ensign Manufacturing Company...last fly leaf.	
New Albany Steam Forge	xi
Thos. Prosser & Son	xvii
A. & P. Roberts	xx
AUTOMATIC ENGINES—	
Westinghouse Machine Co	18
BARB WIRE—	
I. L. Elwood & Co	14
BAGGAGE TRUCKS, ETC.—	
Fairbanks, Morse & Co.....between 26 and 27	
Lafayette Car Works	110
BLASTING POWDER—	
Hendrock Powder Co. [*Errata.*—In the advertisement of this company, page 4, for "formed by the union of *the* ingredients," read "formed by the union of *two* ingredients"; for "J. B. Rand, President," read "J. *R.* Rand, President."]	4
BOOKS—	
The Railroad Gazette	70
BOLT CUTTERS—	
Howard Iron Works	viii
BORING BARS FOR TAPER—HOLES—	
L. B. Flanders Machine Works	100
BORING BARS FOR LATHES—	
L. B. Flanders Machine Works	100
BORING BARS FOR STATIONARY ENGINE CYLINDERS—	
L. B. Flanders Machine Works	100
BRAKE SHOE AND HEAD—	
Standard Manufacturing Co	92
BRAKES—	
Eames Vacuum Brake Co	80
BRASS, SHEET, BOLTS, ETC.—	
C. G. Hussey & Co	54
BRIDGES—	
D. H. Andrews	12
T. H. Hamilton	36
BRIDGES AND CAR TIMBER—	
Joel H. Millener	122
BALLAST CRUSHERS—	
Totten & Co	24
Farrell Foundry & Machine Co	114
BOILER TUBE EXPANDERS—	
R. Dudgeon	126
CARS—	
Ensign Manufacturing Company....last fly leaf.	
Billmeyer & Small Co	126
Harlan & Hollingsworth Company	100
Lafayette Car Works	110
Pardee, Snyder & Co	26
CAR BUILDERS' MACHINERY—	
Williams, White & Co	24
CAR BRAKE-SHOES—	
Ramapo Wheel & Foundry Company	136
Standard Manufacturing Company	92
CAR SEALS—	
Chicago Car Seal Company	xx
CAR-DOOR FASTENERS—	
Post & Co	76
CAR HEATERS—	
Johnson Railway Heater Company	42
CAR COLORS—	
Edw. Smith & Co	36
D vidson & Blondel	96
Cary, Ogden & Parker	50
F. W. Devoe & Co	54
CAR REPLACERS—	
Jersey City Iron Works	170
CAR PLATFORM AND COUPLING—	
Cowell Platform & Coupling Company	54
CAR-STEP LIGHTER—	
Hunt's Car Step Light & Railway Specialty Company	94
CAR VARNISHES—	
Parrott Varnish Company	8
Edw. Smith & Co	36
F. W. Devoe & Co	54
King Varnish Company	68
DeGolyer & Bros	80
CAR TRIMMINGS—	
Post & Co	76
CAR WHEELS—	
Andrews & Clooney	98
Cayuta Wheel & Foundry Company	122
Ensign Manufacturing Company...last fly leaf.	
Knoxville Car Wheel Co	122
Lafayette Car Works	110
Maher & Brayton	84
Ramapo Wheel & Foundry Company	136
CAR SEATS—	
C. C. Mason	26
CASTINGS—	
Maher & Brayton	84
Bucyrus Foundry & Manufacturing Co	74
CHUCKS—	
E. Horton & Son Company	146
CHUCKS FOR VALVES—	
L. B. Flanders Machine Works	100
CONTRACTOR—	
T. H. Hamilton, Toledo	36
CONTRACTORS, MACHINERY—	
Rand Drill Company	4
Bucyrus Foundry & Manufacturing C	74
Copeland & Bacon	8
Totten & Co	24
Sidney Steel Scraper Co	140
Osgood Dredge Company	vii

Railway Varnishes---PARROTT VARNISH CO., Bridgeport, Connnecticut.

NATHAN H. DAVIS, President. LEWIS C. GRATZ, Sec'y and Treas. PUSEY A. WALTON, Manager.

DIAMOND STATE CAR SPRING COMPANY.

OFFICES:

411 and 413 Walnut St.,

PHILADELPHIA, PA.

WORKS:

WILMINGTON,

DELAWARE.

MANUFACTURERS OF

Elliptic, Hebbard & Round-Bar Steel Spiral Springs,

LOCOMOTIVE SPRINGS, "WALTON," OR PLAIN BAND,

Davis' Patent Bolster, Draw, Buffer and Equalizing Springs,

VULCAN CAR JOURNAL BEARINGS.

Licensed to Manufacture Edge-Rolled Springs of Every Description.

DAVIS & GRATZ { Railway Car Journal Boxes and Dust Guards. Waste of oil and hot boxes absolutely prevented. Call and examine.

CLASSIFIED INDEX—Continued,

CONTRACTORS' SUPPLIES— PAGE.
Geo. A. Smith 50
Pittsburgh Supply Company..... 169
Geo. B. Carpenter & Co. 106
COPPER, ROLLED—
C. G. Hussey & Co..... 54
CRANES—
Farrel Foundry & Machine Company.... 114
Yale & Towne Manufacturing Company... ix
CRANK PIN MACHINERY—
L. B. Flanders Machine Works..... 100
CRANK PIN & CAR WHEEL PRESSES—
Watson & Stillman..... 94
CULVERT PIPES—
Blackmer & Post..... II
CYLINDER BORING MACHINE—
L. B. Flanders Machine Works..... 100
DESKS—
A. H. Andrews & Co..... 171
American Store Stool Company..... 166
DRAWING MATERIALS, ETC.—
Frost & Adams..... 40
Young & Sons..... 20
W. Mitchell McAllister..... xi
DREDGES, ETC.—
Bucyrus Foundry & Manufacturing Co.. 74
Osgood Dredge Company..... vii
DRILLS, TRACK—
Beland Track Drill Company..... 30
DUST GUARDS—
Vulcanized Fibre Company.....last fly leaf.
ELEVATORS & HOISTING MACHINES—
Crane Bros. Manufacturing Company 92
G. S. Wormer & Sons..... II
EMERY WHEELS, MACHINERY AND TOOLS—
Union Stone Company..... IV
ENGINES, PORTABLE AND STATIONARY—
G. S. Wormer & Sons..... II
ENGINES FOR DRIVING PORTABLE DRILLS—
L. B. Flanders Machine Works..... 100

ENGINEERING INSTRUMENTS— PAGE.
Young & Sons..... 20
ENGINEERS' MATERIALS—
Frost & Adams..... 40
Young & Sons..... 20
W. Mitchell McAllister..... xi
EXCAVATORS—
Bucyrus Foundry & Manufacturing Co.. 74
Osgood Dredge Company..... vii
FENCING—
I. L. Elwood & Co..... 14
Washburn & Moen Manufacturing Co.... 108
FLAT SPRING KEYS—
The Whitman & Barnes M'f'g Co..... 20
FLUE CLEANER (for outside deposits)—
L. B. Flanders Machine Works..... 100
FORGES, PORTABLE—
Empire Portable Forge Company..... 6
FORGINGS—
New Albany Steam Forge..... 122
Thos. Prosser & Son..... xvii
FREIGHT TRAIN BRAKES—
Eames Vacuum Brake Company..... 80
FROGS AND CROSSINGS—
H. & H. Elliot.....inside first cover.
Emley & Co..... 114
Jersey City Iron Works..... 170
Morden Frog & Crossing Works..... iii
Pennsylvania Steel Works..... 110
Ramapo Iron Works..... 136
Fred. C. Weir..... I
Maher & Brayton..... 84
GUARANTEE BONDS—
Guarantee Company of North America.... xv
GLAZING WITHOUT PUTTY—
Arthur E. Rendle..... xi
HEATERS, CAR—
Johnson Railway Heater Company..... 42
Salmon Heater Company..... 148

HAND AND PUSH CARS— PAGE.
Billmeyer & Small Company..... 126
Pardee Car & Machine Works..... 26
Kalamazoo Railroad Velocipede Company. 132
La Fayette Car Works..... 110
Bucyrus Foundry & Manufacturing Co.... 74
Fairbanks, Morse & Co.....between 26 and 27
HARD WOOD LUMBER— PAGE.
Strack & Angell..... 90
HEAD LIGHTS—Post & Co..... 76
I. A. Williams & Co.....inside last cover.
HOISTING ENGINES—
Copeland & Bacon..... 8
Crane Bros. Manufacturing Company..... 92
G. S. Wormer & Sons..... II
HYDRAULIC JACKS—
Watson & Stillman..... 94
Philip S. Justice & Co..... 72
R. Dudgeon..... 126
HOT AIR PUMPING ENGINES—
Delamater Iron Works..... 34
IMPORTERS—
Stroud, Sibbald & Co..... 62
INJECTORS—National Tube Works..... 56
IRON—
John S. Leng.....outside last cover.
Stroud, Sibbald & Co..... 62
IRON, MALLEABLE, CASTINGS—
Dayton, Malleable Iron Company..... 42
JACKS—
R. Dudgeon & Co..... 126
Philip S. Justice..... 72
Watson & Stillman..... 94
JACKS, TRACK—Andrew Warren..... 30
JOURNAL BEARINGS—
Ajax Metal Company..... 90
Ensign Manufacturing Company...last fly leaf.
Geo. R. Meneely & Co..... 10
Le Roy Journal Bearing Company..... 62
J. J. Ryan & Co..... 34

THOS. F. GRIFFIN & SONS, Buffalo, N. Y., Car Wheels & Castings.

BONDS OF SURETYSHIP

For Officers of Banks, Railways, Express Companies, Etc.

GUARANTEE COMPANY.

OF NORTH AMERICA.

ESTABLISHED 1872.

CAPITAL—Paid up in Cash, - - - - - - - - - - $300,000
Deposited in United States, for the special security of United States Policyholders, 214,000
ASSETS and RESOURCES over, - - - - - - - - - - 775,000

HEAD OFFICE, 260 ST. JAMES STREET, MONTREAL.

CHICAGO:

Directors:—WM. K. ACKERMAN: R. R. CABLE, President Chic. R. I. & Pac. R. R.; JOHN CRERAR, vice President Chicago & Alton R. R.: JOHN B. DRAKE, Grand Pacific Hotel; GEORGE L. DUNLAP, Director Wab., St. L. & Pac. R. R.; THE HON. J. RUSSELL JONES. President West Side Railway; H. H. PORTER. Director First National Bank.
Counsel:—THE HON. JUDGE BECKWITH.

BRANCH OFFICE:
175 La Salle Street.

General Agent and Attorney:
E. D. L. SWEET.

Branch Offices:—NEW YORK, D. J. Tompkins, 178 Broadway; BOSTON, G. W. Grezerson, 17 Central Street; LOUISVILLE, Clinton McClarty, Bank Clearing House; PHILADELPHIA, A. F. Sabine, 506 Walnut Street; RICHMOND, W. H. Pleasants, 1104½ Main Street.

Principal Agencies:—ALBANY, H. S. Bull & Co.; ATLANTA, John C. Whitner & Son; BALTIMORE, W. S. Polk, *General Agent*, 13 Rialto St., T. W. Lawford, *Special Agent;* BUFFALO, F. N. Hayden, Chapin Block; CHARLESTON, S. C., C. T. Lowndes & Co., 10 Broad St.; DETROIT, Wm. Kingsley, 84 Griswold Street; HARTFORD, Conn., C. C. Kimball & Co.; INDIANAPOLIS, Cleveland & Adams, 29½ Pennsylvania St.; JACKSON, John T. Buck; KANSAS CITY, Schneider & Browne, 129 West Sixth St.; MOBILE, J. C. Ruse; NASHVILLE, Morrow Brothers & Cooley; NEW ORLEANS, Fell & Co., 46 Camp St., cor. Gravier St.; PENSACOLA, Knowles Brothers; PORTLAND, Me., Prentiss Loring, 31½ Exchange St.; SAVANNAH, C. A. Reitze; ST. LOUIS, Mo., Bascome & Munson, 317 Chestnut St.; ST. PAUL, J. E. Atherton; SELMA, Franklin & Co.; TROY, N. Y., Hudson & Crary.

EDWARD RAWLINGS,
Managing Director.

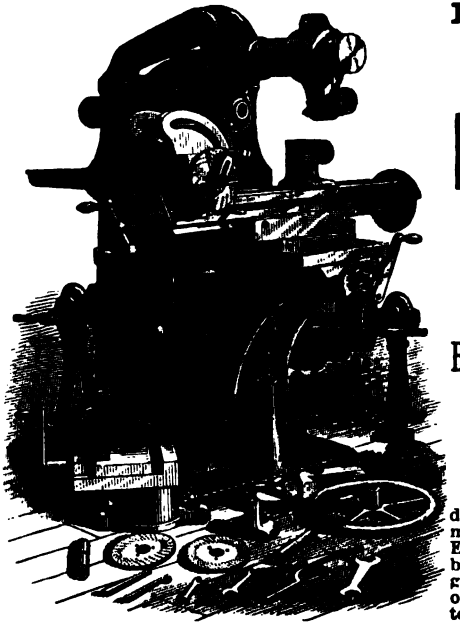
CLASSIFIED INDEX—Continued.

JOURNAL BEARING KEYS, BOX COVERS— PAGE.
Dayton Malleable Iron Company..... 42
LANTERNS AND LAMPS—
Post & Co..... 76
LOCOMOTIVES—
Pittsburgh Locomotive & Car Works..... 36
LOCOMOTIVE LUBRICATORS—
The Swift Automatic Lubricator Company 26
LOCOMOTIVE DRIVER BRAKES—
Eames Brake Company..... 42
LOCOMOTIVE HEAD LIGHTS—Post & Co..... 76
I. A. Williams & Co... .....inside last cover.
LOCOMOTIVE TIRES—Thos. Prosser & Son.... xvi
LUBRICATORS—The Swift Lubricator Co..... 26
LUMBER—
Joel H. Miller er..... 122
Strack & Angell..... 90
MALLEABLE IRON CASTINGS—
Dayton Malleable Iron Company..... 42
The Tuttle & Whittemore Company..... 88
MACHINISTS' TOOLS—
Brown & Sharp Manufacturing Company xvii
Empire Portable Forge Company..... .. 6
Howard Iron Works..... viii
The E. Horton & Son Company..... 146
Philip S. Justice & Co..... 72
George A. Smith..... 50
Williams, White & Co.... 24
Union Stone Company..... iv
Yale & Towne M'f'g Co..... ix
MILLING MACHINE (STEAM CHEST SEAT)—
L. B. Flanders Machine Works..... 100
NAILS FOR CAR BUILDERS, ETC.—
H-P. Nail Company 132
NUT LOCKS—
Metcalf, Paul & Co..... 38
The Tuttle & Whittemore Company..... 88
Deeds Nut-Lock Company..... 90
Me cer Nut-Lock Company..... 145

OFFICE FURNITURE— PAGE.
A. H. Andrews & Co..... 171
American Store Stool Co..... 166
OILERS FOR BOX, WEDGE AND SLEEVE—
L. B. Flanders Machine Works,..... 100
PAINTS—
Cary, Ogden & Parker..... 50
Iron-Clad Paint Co..... 42
Davidson & Blondel.. 96
F. W. Devoe & Co..... 54
Edw. Smith & Co..... 36
H. W. Johns Manufacturing Company.... xix
PAPER, SAFETY—
Augustine Smith & Co.....between 112&113
PERFORATED SHEET METAL—
Bernard Dreyfus..... 68
PLANER CHUCK—
Greenwood's, L. B. Flanders Mach. W'ks... 100
PLATE IRON WORK—Tippett & Wood..... 140
PHOTOGRAPHIC APPARATUS—
G. F. E. Pearsall..... 154
PULLEY BLOCKS—
Yale & Towne Manufacturing Company... ix
PUMPS—
The A. S. Cameron Pump Works..... 154
Crane Bros. Manufacturing Company.... 92
Delamater Iron Works..... 34
Deane Steam Pump Company..... 146
Fairbanks, Morse & Co.....between 26 and 27
John S. Leng.....outside last cover.
Valley Machine Company..... 50
H. R. Worthington..... 10
PUNCHES, TICKET—
Warren Hill..... 6
L. O. Crocker..... 6
Fred. J. Meyers Manufacturing Company 98
RADIAL PLANERS FOR LINKS—
L. B. Flanders Machine Works..... 100

RAILS— PAGE.
Philip S. Justice & Co..... 72
Pennsylvania Steel Company..... 110
Stroud, Sibbald & Co..... 62
Tudor Iron Works..... 24
Cambria Iron Company..... 28
RAILWAY STATIONERY—Young & Sons..... 20
RAIL FASTENINGS—
Deeds Nut-Lock Company..... 90
Cambria Iron Company..... 28
Emley & Co..... 114
Morris Sellers & Co..... 58-59
Fowler Rolling Mill Co..... 152
Vulcanized Fibre Company.....last fly leaf.
Tudor Iron Works..... 24
Metcalf, Paul & Co..... 38
The Tuttle & Whittemore Company..... 88
Mercer Nut-Lock Company..... 145
RAILWAY SUPPLIES—
Hunt's Car Step Light & Railway Specialty Company..... 94
George A. Smith..... 50
Post & Co..... 76
Pittsburgh Supply Company..... 169
Geo. B. Carpenter & Co..... 106
ROCK DRILLS—Rand Drill Company..... 4
ROOFING—
Anglo-American Roofing Company..... 98
N. & G. Taylor..... 145
RUBBER GOODS—Chicago Rubber Works..... 34
SAMSON SPLICE BARS—Morris Sellers & Co... 58-59
SASH LIFT AND FASTENER—Addison D. Loucks 92
SCRAPERS—Sidney Steel Scraper Company.... 140
SCALES—
Fairbanks, Morse & Co.....between 26 and 27
Forsyth Scale Company..... xi
SHINGLES, METALLIC—
Anglo-American Roofing Company..... 98

GRIFFIN & WELLS FOUNDRY CO., Chicago, Car Wheels & Castings.



LARGE SIZE

UNIVERSAL

MILLING

MACHINE.

MADE BY

BROWN & SHARPE M'F'G CO.,

PROVIDENCE, R. I.

This machine has been designed especially to meet the wants of Steam Engine and Locomotive builders and others engaged in the manufacture of heavy machinery and tools.

Illustrated Catalogue Mailed on Application.

Cast-Steel Works

OF

FRIED. KRUPP,

ESSEN,

GERMANY.

TIRES

AMERICAN OFFICE:

15 Gold Street,

NEW YORK.

Represented by THOMAS PROSSER & SON.

CLASSIFIED INDEX—Continued.

SHOVELS, SCOOPS, ETC.— PAGE.
Remington Agricultural Company..... 96
SIGNALS, AIR -
McLeod Railroad Air Signal Company.... 154
SPIKES—
Fowler Rolling Mill Co..... 152
Tudor Iron Works..... 24
SPIKE PULLERS—
Lalance & Grosjean Manufacturing Company..... 94
SPRINGS—
Andrews & Clooney..... 98
Chicago Tyre & Spring Works..... 12
Diamond State Car Spring Works..... xiii
Miller, Metcalf & Parkin..... 32
SPRING KEYS AND COTTERS—
The Whitman & Barnes Manufacturing Company..... 20
STAND PIPES—
Fairbanks, Morse & Co.....between 26 and 27
John N. Poage..... 20
Tippett & Wood..... 140
SEEAM ENGINES—
Westinghouse Machine Company..... 18
STEAM HAMMERS—
Williams, White & Co..... 24
R. Dudgeon..... 126
STEAM PUMPS—
H. R. Worthington..... 10
Delamater Iron Works..... 34
Crane Bros. Manufacturing Company..... 92
Valley Machine Company..... 50
The A. S. Cameron Steam Pump Works.. 154
Deane Steam Pump Works..... 146
Fairbanks, Morse & Co.....between 25 and 27
STEEL CASTINGS—
Buffalo Steel Foundry..... 140
STEEL PLATES, SHAFTING, AXLES, ETC.— PAGE.
A. & P. Roberts & Co..... xx
STEEL AND STEEL TIRES—
Chicago Tyre & Spring Works 12
Thos. Prosser & Sons..... xvii
Standard Steel Works..... xix
STEEL, TOOL AND SPRING—
Miller, Metcalf & Parkin..... 32
STONE BREAKERS—
Farrell Foundry & Machine Company... 114
Totten & Co..... 24
SWITCHES—
Jersey City Iron Works..... 171
Pennsylvania Steel Works..... 110
Ramapo Iron Works..... 136
Morden Frog & Crossing Works..... iii
Standard Switch Co..... viii
TANKS—Tippett & Wood..... 140
TANKS, CEDAR—G. J. Burkhardt's Sons..... 156
TANK VALVES, ETC.,—
Fairbanks, Morse & Co.....between 26 and 27
TICKET PUNCHES—
Fred. J. Meyers Manufacturing Company 98
L. O. Crocker..... 6
Warren Hill..... 6
TIES—Joel H. Millener..... 122
TOOL STEEL—Miller, Metcalf & Parkin..... 32
TRACK GUAGE—Andrew Warren..... 46
TRACK MATERIALS—Post & Co..... 76
TRACK WASHERS—
Metcalf, Paul & Co..... 38
The Tuttle & Whittemore Co..... 88
Vulcanized Fibre Company.....last fly leaf.
TRACK TOOLS—
Beland Track Drill Company..... 30
Andrew Warren.....30 and 46
Metcalf, Paul & Co..... 38
TRACTION DRAW-BARS—
Automatic Traction Draw-Bar Co..... 106
TRUCKS, AUTOMATIC, FOR HANDLING AXLES, PAGE.
GIRDERS, ETC.—John Terhune..... 118
TUBES—
John S. Leng.....outside last cover.
National Tube Works..... 56
TUBE AND FLUE BRUSHES—
L. B. Flanders Machine Works..... 100
TUNNELING MACHINERY—
Rand Drill Company..... 4
Bu yrus Foundry & Manufacturing Company..... 74
TURN TABLES—
D. H. Andrews..... 12
Pardee Car & Machine Works..... 26
Tippett & Wood..... 140
VALVE SEAT ROTARY PLANING MACHINE—
L. B. Flanders Machine Works..... 100
VARNISH—
F. W. Devoe & Co..... 54
Parrott Varnish Company..... 8
King Varnish Company..... 68
DeGolyer & Bros..... 80
Edw. Smith & Co..... 38
VELOCIPEDES, RAILWAY—
Kalamazoo Railroad Velocipede Company 132
E. B. Preston & Co..... 104
WATER COLUMNS—John N. Poage 20
WRIST PIN LATHE—
L. B. Flanders Machine Works..... 100
WIRE AND IRON WORKS—
E. T. Barnum Wire & Iron Wks. between 128&129
WROUGHT IRON PIPE—
Crane Bros. Manufacturing Company.... 92
National Tube Works..... 56
WATER PIPE—
Abendroth & Root Manufacturing Co... 2
WIRE ROPE—Geo. B. Carpenter & Co..... 106
WROUGHT IRON BEAMS, CHANNELS, ETC.—
A. & P. Roberts & Co..... xx

GRIFFIN CAR WHEEL CO., Detroit, Car Wheels & Castings.

ONLY FIRST QUALITY GOODS.

H. W. JOHNS' ASBESTOS

LIQUID PAINTS,

Roof, Car and Bridge Paints.

Asbestos Roofing.
Asbestos Boiler Coverings.
Asbestos Locomotive Lagging.
Asbestos Piston Packing.
Asbestos Mill Board.
Asbestos Gaskets.
Asbestos Sheathing.
Asbestos Building Felt.
Asbestos Fire-Proof Paints and Coatings.
Asbestos Cements, Etc.

SEND FOR DESCRIPTIVE PRICE LISTS.

H. W. JOHNS' MFG. CO.,

87 Maiden Lane, NEW YORK. *170 N 4th Street, PHILADELPHIA.* *45 Franklin St., CHICAGO.*

THE STANDARD STEEL WORKS,
PHILADELPHIA, PA.,

STEEL TIRES.

REPRESENTATIVES:
J. H. BELCHER, Room 34, Astor House Offices, New York.
J. S. BREWER, 180 Lake st., Chicago.
ANDREW WALKER, 714 N. 2nd st., St. Louis.
CINCINNATI RAILWAY SUPPLY CO., 50 W. 3d st., Cincinnati.
MORRIS, LEWIS & CO., 226 W. Main st., Louisville.
JOHN MCANERNY & CO., New York City.
H. L. LEACH, Boston.

Pat. March, 1884.

CHICAGO CAR SEAL CO.

No. 283 Dearborn Street, - - - - - CHICAGO.

WE OFFER OUR

NEW AUTOMATIC SEAL

— FOR —

Freight Cars, Mail and Money Bags, Warehouses, Stores, Etc.

NO PUNCH, PRESS OR KEY REQUIRED.

Cannot be opened or duplicated without detection. A radical and new departure from old styles and methods. We also manufacture car seals of various kinds used by Railroads.

For Prices, Samples and full information, address as above.

ANNUAL CAPACITY, 25,000 Tons.

PENCOYD IRON WORKS.

ESTABLISHED 1852.

A. & P. ROBERTS & CO.,

PHILADELPHIA, - - - - PA.

WROUGHT IRON BEAMS, CHANNELS, DECK BEAMS, ANGLES, TEES, PLATES and MERCHANT BAR.

SHAFTING, ROLLED OR HAMMERED AXLES.

"NEW IRON" AXLES A SPECIALTY.

STEEL

BEAMS, Channels, Tees, Deck Beams, Angles, Plates, Shafting, Axles, of either Bessemer or Open-hearth Steel, to comply with Specifications.

The Official Railway List,

CAREFULLY CORRECTED TO MARCH 1, 1884.

ADDISON & NORTHERN PENNSYLVANIA—Gauge, 3. Miles operated, 46. No. of locomotives, 5; passenger cars, 6; freight and miscellaneous cars, 42.
President—Thos. C. Platt, 82 Broadway, New York.
Vice President—George R. Blanchard, N. Y., L. E. & W. R., New York.
Gen'l Superintendent and Purchasing Agent—Frank M. Baker, Addison, N.Y.
Chief Engineer—W. E. Womelsdorff, Addison, N. Y.
Secretary—J. E. Jones, Addison, N. Y.
Treasurer—W. C. Sheldon, New York.
Auditor—F. W. Thomas, Addison, N. Y.
Roadmaster—Jas. P. Wright, Addison, N. Y.

ADIRONDACK—Gauge, 4-8½. Miles operated, 58. No. of locomotives, 3; passenger cars, 5; freight and miscellaneous cars, 58.
President—G. T. M. Davis, New York.
Vice President and General Manager—T. C. Durant, New York.
General Superintendent, General Passenger and Freight Agent—C. E. Durkee, Saratoga Springs, N. Y.
Secretary—W. W. Durant, Saratoga Springs, N. Y.
Roadmaster—C. R. Eastman, Saratoga Springs, N. Y.

ALABAMA GREAT SOUTHERN—(See Cincinnati, New Orleans & Texas Pacific).

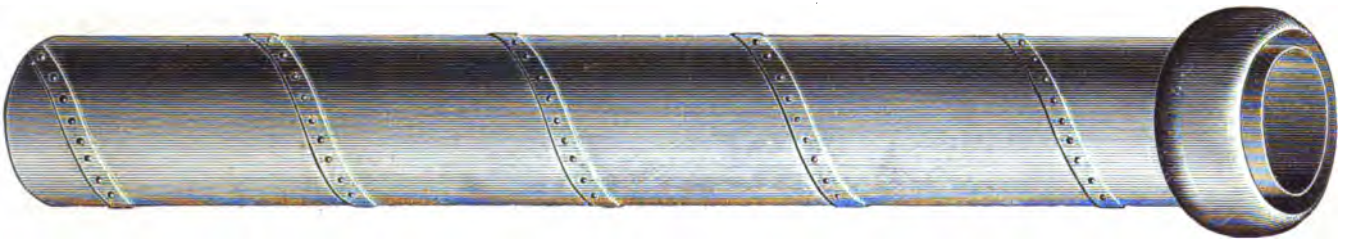
ALBERT—Gauge, 4-8½. Miles operated, 51. No. of locomotives, 3; cars, 35.
President—R. T. Clinch, St. John, N. B.
Secretary—Alfred Ray, St. John, N. B.
General Manager and Purchasing Agent—Geo. A. Robinson, Hillsborough, N.B.
Master Mechanic—James McKay, Hillsborough, N. B.
Roadmaster—Hans Larsen, Hillsborough, N. B.

ALBEMARLE & RALEIGH—Gauge, 4-8½. Miles operated, 35; No. of locomotives, 3; passenger cars, 5; freight and miscellaneous cars, 40.
President—H. R. Baltzer, 50 Exchange place, N. Y.
Vice President—Henry J. Rogers, 52 Broad st., N. Y.
General Superintendent—James H. Petty, Tarboro, N. C.
Secretary—H. K. Creevy, N. Y.
Treasurer—A. Lichtenstein, 50 Exchange place, N. Y.
General Passenger and Freight Agent—T. J. Chandler, Tarboro, N. C.
Master Mechanic—A. J. Hudson, Tarboro, N. C.
Roadmasters—S. B. Williams, Tarboro, N. C.; Geo. J. Studdart, Robersonville, N. C.

ALLEGHENY VALLEY—Gauge, 4-9. Miles operated, 259. No. of locomotives, 70; passenger cars, 47; freight and miscellaneous cars, 2,155.
President—John Scott, Pittsburgh, Pa.
General Superintendent and Purchasing Agent—David McCargo, Pittsburgh.
Secretary and Treasurer—Thos. R. Robinson, Pittsburgh, Pa.
Auditor—T. F. Brown, Pittsburgh, Pa.
General Passenger, Ticket and Freight Agent—E. H. Utley, Pittsburgh, Pa.
Master Mechanic—Geo. W. Glass, Verona, Pa.
Master Car Builder—Robt. Gunning, Verona, Pa.
Master Car Painter—John P. Stroud, Verona, Pa.
Division Superintendents—C. B. Price, River Div., Pittsburgh; A. A. Jackson, Low Grade Div., Reynoldsville, Pa.
Supervisors—A. B. Kerr, Johnston Station, Pa.; H. E. Bradley, Emlenton, Pa.; P. McEnteer, Reynoldsville, Pa.; M. Phalen, Reynoldsville, Pa.

ALMA & LITTLE ROCK—Gauge, 4-8½. Miles operated, 12. No. of locomotives, 1; freight and miscellaneous cars, 10.
President, Gen'l Supt. and Purchasing Agent—J. B. Wilkinson, Alma, N. C
Secretary, Auditor, Assistant Treasurer, General Passenger and Fre Agent—E. S. Lathrop, Alma, N. C.

IMPORTANT to WATER-WORKS CONTRACTORS AND HYDRAULIC ENGINEERS



By recent improvements in our machinery and appliances, we are now manufacturing spiral seam riveted sheet-iron pipe that IS ABSOLUTELY WATER TIGHT AND SAFE UNDER ANY DESIRED HEAD. It is coated with a material impervious to the action of damp acids, or chemicals contained in the ground, and can be used to equal advantage with or without cement lining. Made in lengths of 20 feet and under.

OUR COMBINATION COUPLINGS, wrought-iron nipple and cast-iron sleeve, for cement or lead caulking, are simple and effective, AND ESPECIALLY ADAPTED TO SERVICE UNDER HEAVY PRESSURE. Ample provision is made for tapping for service connection.

Bends and branches of all descriptions furnished to specification.

Our Pipe Inaugurates a New Departure in Hydraulic Engineering.

ITS FIRST COST IS LOWER, AND THE EXPENSE OF HANDLING AND TRANSPORTATION MUCH LESS

Than any other now before the Public.

For the past twenty to twenty-five years sheet-iron pipe has been, and still is, almost exclusively used on the Western coast for the erection of water works, and has proved itself a cheap and efficient substitute for cast-iron, even under heavy pressure. Among the Californian cities and towns whose water works systems are constructed of riveted sheet-iron mains, may be enumerated: OAKLAND, PETALUMA, SANTA BARBARA, SAN RAFAEL, GILROY, SANTA ROSA, SAN JOSE, WATSONVILLE, SAN LUIS OBISPO, MENLO PARK, NORTH SAN JUAN, GRASS VALLEY, COLUSA, SAN DIEGO, OROVILLE, CLOVERDALE, BENECIA, SAN BUENA VENTURIA, and PIOCHE, Nev., and many others of earlier and later dates. The head of water in the above towns varies fron 60 to 500 ft.

Investigation is earnestly solicited, and every facility for inspection and experiment will be furnished at work, and all information promptly given.

ABENDROTH & ROOT MFG. CO., 28 Cliff Street, New York.

Treasurer—P. A. Fore, Alma, N. C.
Master Mechanic—D. J. Swindall, Alma N. C.
Roadmaster—J. S. Russ, Alma, N. C.

ALLEGHANY CENTRAL—(See Lackawanna & Pittsburgh).

ANNAPOLIS & ELK RIDGE—Gauge, 4-8½. Miles operated, 20½. No. of locomotives, 5; passenger cars, 7; freight and miscellaneous cars, 7.
President, Gen'l Sup't and Purchasing Agent—Wm. H. Bians, Annapolis, Md.
Secretary and Treasurer—D. C. Handy, Annapolis, Md.
Vice President—H. E. Loane, Baltimore, Md.
Assistant General Superintendent and General Freight and Ticket Agent—Jas. H. Brown, Annapolis, Md.
Master Mechanic—John L. Beall, Annapolis, Md.
Roadmaster—Wm. G. King, Crownsville, Md.

ARIZONA & NEW MEXICO—Miles operated, 59.
General Superintendent—W. H. Jones, Lordsburg, N. M.

ARKANSAS & LOUISIANA—Gauge, 4-8½. Miles operated, 28. No. of locomotives, 2; passenger cars, 1; freight and miscellaneous cars, 2.
President and Treasurer—W. H. Carruth, Washington, Ark.
Superintendent—J. D. Beardsley, Washington, Ark.
Assistant Superintendent—P. F. Beardsley, Washington, Ark.
Auditor and Purchasing Agent—H. H. Wheelis, Washington, Ark.

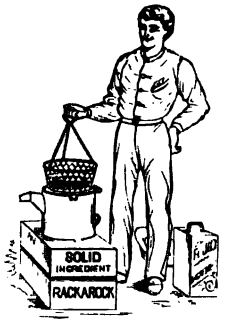
ARKANSAS MIDLAND—Gauge, 3. Miles operated, 30. No. of locomotives, 4; passenger cars, 4; freight and miscellaneous cars, 40.
President and General Manager—A. H. Johnson, Helena, Ark.
Vice President—J. J. Hornon, Helena, Ark.
General Superintendent—J. B. Johnson, Helena, Ark.
Secretary—S. H. Hornon, Helena, Ark.
Treasurer—E. C. Hornon, Helena, Ark.
Auditor and General Passenger and Freight Agent—G. T. Updegraff, Helena.
General Ticket Agent—A. B. Paddock, Helena, Ark.
General Baggage Agent—W. N. Johnson, Helena, Ark.
Foreman of Locomotive Repairs—Wm. Kelly, Helena, Ark.
Master Car Builder—John Greenhoe, Helena, Ark.

ASHEVILLE & SPARTANBURG—Gauge, 5. Miles operated, 50.
President—R. Y. McAden, Charlotte, N. C.
Vice Presidents—Wm. H. Inman, New York; A. L. Rives, Richmond, Va.
Superintendent and Secretary—Jas. Anderson, Spartanburg, S. C.
Treasurer and Auditor—A. L. White, Spartanburg, S. C.

ASHLAND COAL & IRON—Gauge, 4-8½. Miles operated, 22. No. of locomotives, 7; passenger cars, 2.
President—John Means, Ashland, Ky.
Vice President—John G. Peebles, Portsmouth, O.
General Manager and General Superintendent—Douglas Putnam, Jr., Ashland, Ky.
Assistant General Superintendent—Frank Coles, Ashland, Ky.
Chief Engineer—M. T. Hilton, Ashland, Ky.
Secretary and Treasurer, General Ticket, Baggage, Freight, and Purchasing Agent—Robt. Peebles, Ashland, Ky.
Auditor—Chas. Krotzenbarger, Ashland, Ky.
Fuel Agent—C. D. McKenzie, Ashland, Ky.
Master Mechanic and Master Car Builder—E. M. Roberts, Ashland, Ky.
Car Accountant—L. R. Putnam, Ashland, Ky.
Foreman of Locomotive Repairs—Wm. Wonn, Ashland, Ky.
Foreman of Car Repairs—O. F. Brainard, Ashland, Ky.
Roadmaster—Jos. P. Mayo, Ashland, Ky.

ATCHISON, TOPEKA & SANTA FE—Gauge, 4-8½. Miles operated, 2,168. No. of locomotives, 350; passenger cars, 147; freight and miscellaneous cars, 9,611.
President—Wm. B. Strong, Boston.
Vice President and General Manager—A. E. Touzalin, Topeka, Kas.
Comptroller—John P. Whitehead, Boston.
Assistant General Manager—Geo. B. Harris, Topeka, Kas.
General Superintendent and Chief Engineer—A. A. Robinson, Topeka.
Principal Assistant Engineer—Geo. B. Lake, Topeka.
Secretary—Geo. L. Goodwin, Boston.
Treasurer—E. Wilder, Topeka.
Auditor—H. C. Clements, Topeka.
Traffic Manager—J. F. Goddard, Topeka.
General Passenger and Ticket Agent—W. F. White, Topeka.
General Baggage Agent—P. Walsh, Topeka.
General Freight Agent—H. C. Barlow, Topeka.
Purchasing Agent—Geo. Hargreaves, Topeka.
Superintendent Fuel and Mines—W. W. Allen, Topeka.
Superintendent Motive Power and Machinery—Geo. Hackney, Topeka.
Division Master Mechanics—J. M. Smith, Kansas City, Mo.; J. Togan, Atchison, Kas.; Alf. Taylor, Emporia, Kas.; W. W. Johnston, Nickerson, Kas.; A. C. Stiles, La Junta, Col.; D. H. Dotterer, Raton, N. M.; F. B. Woodruff, Las Vegas, N. M.; J. H. Holman, Wallace, N. M.; E. Hackett, San Marcial, N. M., and Deming, N. M.; G. A. Hancock, El Paso, Tex.

RAILROAD OFFICERS INVESTIGATE.



"RACKAROCK,"

A new blasting powder formed by the union of the ingredients, one a solid and the other a fluid, both being absolutely INEXPLOSIVE until COMBINED by the consumer.

RAILROADS

Can now avoid the dangers of transporting dynamite by transporting the *materials* out of which an explosive, stronger than No. 1 Dynamite can be made. These materials are decidedly inexpensive under any and *all* circumstances. They do not contain a particle of glycerine, nitro glycerine or gun cotton in any form or under any color.

The public should understand that it *does not freeze in cold climates*, consequently the accidents incident to the thawing of dynamite are avoided.

The manufacturers now offer it to the public with entire confidence as being a safer and decidedly cheaper powder to use than any other, and that by its use railroad work can be expedited. It is sent by express or freight like ordinary merchandise.

REFERENCES:

Railway Companies:—New York. West Shore & Buffalo; Lehigh Valley R. R.; New Ontario & Western R. R.; Arnet & Pine Creek E. R.; New York & New England; Delaware, Lackawanna & Western RR.

ADDRESS ORDERS TO

RENDROCK POWDER COMPANY,

240 Broadway, New York.

J. B. RAND, PREST. A. C. RAND, TREAS. N. W. HORTON, SEC'Y.

ROCK DRILLS,

Air Compressors,

BOILERS,

Pipe and Fittings,

STEEL,

STEAM PUMPS,

AND OTHER MACHINERY FOR

TUNNELS,

AND OTHER RAILWAY WORK.

RAND DRILL CO

A. C. RAND, Prest.

J. R. RAND, Sec'y and Treas.

N. W. HORTON, Supt.

Master Car Builder—Henry Hull, Topeka.
Division Superintendents—D. J. Chase, Topeka; H. R. Nickerson, Nickerson, Kas.; D. H. Rhodes, La Junta, Col.; Geo. L. Sands, Las Vegas, N. M.
Assistant Division Superintendent—C. M. Rathburn, Topeka.
Roadmasters—D. Coleman, Topeka; P. Peters, Topeka; Geo. Weight, Topeka; A. Harley, Topeka; W. E. Copwell, Nickerson, Kas.; G. J. Lockie, Florence, Kas.; S. Harpster, Dodge, Kas.; E. Treadwell, Trinidad, Col.; Morris Law, San Marcial, N. M.

ATLANTA & WEST POINT—Gauge, 5; Miles operated, 87. No. of locomotives, 18; passenger cars, 20; freight and miscellaneous cars, 226.
President—L. P. Grant, Atlanta, Ga.
General Manager—Cecil Gabbett, Montgomery, Ala.
Treasurer—A. W. Hill, Atlanta, Ga.
General Passenger, Ticket and Freight Agent—A. J. Orme, Atlanta, Ga.
Master Mechanic—C. D. Wall, Montgomery, Ala.
Roadmaster—Wm. Mims, Atlanta, Ga.

ASHUELOT—(See Connecticut River).

ATLANTIC & DANVILLE—Miles operated, 24.
President—J. M. Bailey, Waverly, Va.
General Manager—E. G. Sweatt, Waverly, Va.
Secretary and Treasurer—B. D. Tillar, Waverly, Va.

ATLANTIC & NORTH CAROLINA—Gauge, 4-8½. Miles operated, 95.
President—John D. Whitford, Newbern, N. C.
Secretary and Treasurer—F. C. Roberts, Newbern, N. C.
Superintendent—W. Dunn, Newbern, N. C.

ATLANTIC & PACIFIC—(Western Division)—Gauge, 4-8½ Miles operated, 575. No. of locomotives, 48; passenger cars, 15; freight and miscellaneous cars, 1,074.
President—H. C. Nutt, Boston.
Vice President—E. F. Winslow, New York.
General Superintendent—F. W. Smith, Albuquerque, N. M.
Chief Engineer, W. A. Drake, Albuquerque, N. M.
Division Engineer—C. S. Henning, Williams, A, T.
Secretary and Treasurer—C. S. Tuckerman, Boston.
Auditor—D. L. Gallup, Boston.
Local Auditor—J. J. Blower, Albuquerque, N. M.
General Freight and Passenger Agent—W. C. Dennison, Albuquerque, N. M.
Purchasing Agent—A. West, Chicago, Ill.
General Baggage Agent—J. P. Sheehan, Albuquerque, N. M.
Superintendent Motive Power and Machinery—Geo. F. Chalender, Albuquerque, N. M.
Division Master Mechanics—George W. Jennings, Albuquerque, N. M.; H. Clothier, Coolidge, N. M.; J. X. Woods, Winslow, A. T.; A. R. Barrett, Peach Springs, A. T.
Foreman of Car Repairs—J. T. Johnson, Albuquerque, N. M.
Foreman Car Painters—D. H. Boatright, Albuquerque, N. M.
Assistant Superintendents—Geo. F. Chalender, Albuquerque, N. M.; D. Hardy, Williams, A. T.
Roadmasters—F. W. Meeds, Albuquerque, N. M.; Wm. Crowley, Williams, A. T.; O. T. Hall, Peach Springs, A. T.

AUGUSTA, ELBERTON & CHICAGO—Gauge, 5. Under construction.
President—James P. Verdery, Augusta, Ga.
Vice President—Henry J. Lang, Lincolnton, Ga.
Chief Engineer—C. S. Dwight, Winnsboro, S. C.
Assistant Chief Engineer—D. M. Andrews, Washington, Ga.
Secretary and Treasurer—Henry P. Moore, Augusta, Ga.

AUSTIN & NORTHWESTERN—Gauge, 3. Miles operated, 60. No. of locomotives, 5; passenger cars, 4; freight and miscellaneous cars, 75.
General Manager and Receiver—J. A. Rhomberg, Austin, Tex.
Superintendent—A. L. Rhomberg, Austin, Tex.
General Ticket and Freight Agent—C. A. Gardner, Austin, Tex.
Master Mechanic—L. W. Worster, Austin, Tex.
Roadmaster—H. C. Smith, Austin, Tex.

AUGUSTA & KNOXVILLE—(See Port Royal & Augusta).

BALTIMORE & DELAWARE BAY.—Gauge, 4-8½. Miles operated, 42. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 13
President—John F. Bingham, New York.
General Manager—Fred. Gerker, Chestertown, Md.
Secretary and Treasurer—H. Hosford, Chestertown, Md.
General Freight and Ticket Agent—C. W. Hurley, Chestertown, Md.
Chief Engineer—L. D. Bruyn, Chestertown, Md.

BALTIMORE & OHIO—Gauge, 4-8½. Miles operated, 1,633. No. of locomotives, 571; cars, 15,897.
President—John W. Garrett, Baltimore, Md.
Vice Presidents—1st, Robert Garrett, Baltimore, Md.; 2d, Samuel Spencer, Baltimore, Md.; 3d, Orland Smith, Cincinnati, O.

EMPIRE PORTABLE FORGE CO.,

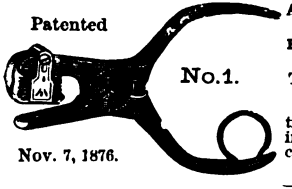
COHOES, N. Y., U. S. A.

Manufacture the Largest & Best Variety of
PORTABLE FORGES AND HAND BLOWERS
(WITH AND WITHOUT BELTS)
IN THE WORLD.
S. D. KIMBARK, Chicago, Ills.,
Carries full line of these goods.

HILL'S IMPROVED TICKET PUNCHES

WERE AWARDED GOLD MEDALS

Patented



No. 1.

Nov. 7, 1876.

At the Melbourne International Exhibition, Australia, 1880, and at Adelaide, 1881.

Punches for Local, Duplex and Commutation tickets. Also B. C., 1-2 and L. Punches.

The best line in the country. Send for descriptive catalogue.

No. 3. Punch, adapted for limited and duplex tickets, six styles; the most perfect and durable in use. Before purchasing, send for descriptive catalogue giving full list.

SUITABLE FOR ANY TICKET IN USE.

WARREN HILL,

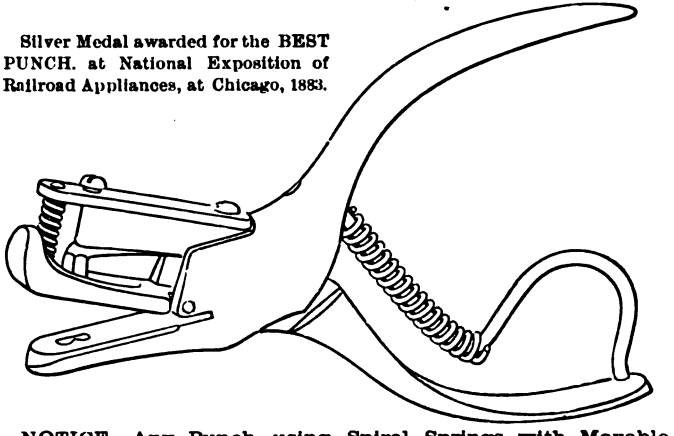
232 Friend Street, - - BOSTON, MASS.

ESTABLISHED IN 1865.

L. O. CROCKER'S NEW IMPROVED TICKET PUNCH.

PATENTED JULY 18, 1882.

Silver Medal awarded for the BEST PUNCH. at National Exposition of Railroad Appliances, at Chicago, 1883.



NOTICE.—Any Punch using Spiral Springs with Movable Stripper is an infringement on my patents.

PATENTED April 30, 1867; Sept. 21, 1869; July 18, 1882.

MANUFACTURED BY THE INVENTOR,

L. O. CROCKER, East Braintree, Mass.

☞ Please send for Circular. ☜

Master of Transportation (Main Line)—W. M. Clements, Baltimore, Md.
Chief Engineer—J. L. Randolph, Baltimore, Md.
Secretary and Treasurer—W. J. Ijams, Baltimore, Md.
Auditor—W. T. Thelin, Baltimore, Md.
Assistant Auditor—W. M. Buchanan, Baltimore, Md
General Passenger Agent—C. K. Lord, Baltimore, Md.
Assistant General Passenger Agent—J. G. Pangborn, Baltimore, Md.
General Ticket Agent—L. M. Cole, Baltimore, Md.
General Baggage Agent—J. Van Smith, Baltimore, Md.
General Freight Agent—Frank Harriott, Baltimore, Md.
Assistant General Freight Agents—C. E. Ways, Baltimore, Md.; C. S. Wright, Columbus, O.
Purchasing Agent—N. S. Hill, Baltimore, Md.
Superintendent of Construction and Repairs—John Bradshaw, Baltimore.
Division Officers—Thos. M. King, General Superintendent Pittsburgh Division, Pittsburgh, Pa.; G. J. Foreacre, General Manager Trans-Ohio Divisions, Newark, O.; J. Fitzgerald, Acting Master of Transportation Ohio Divisions, Newark, O.; F. H. Britton, Superintendent Transportation Chicago Division, Garrett, Ind.
Acting Master of Machinery (Main Line)—A. J. Cromwell, Baltimore, Md.
Assistant Master of Machinery Pittsburgh Division—J. E. Sampsell, Connellsville, Pa.
Assistant Master of Machinery Trans-Ohio Div.—W. H. Harrison, Newark, O.
Master Mechanics—J. N. Kalbaugh, Casper Hussell, Baltimore, Md.; Wm. Edwards, Martinsburg, W. Va.; Samuel Houston, Piedmont, W. Va.; S. B. Crawford, Grafton, W. Va.; Alex. Laird, Parkersburg, W. Va.; F. A. Moore, Pittsburgh, Pa.; H. M. Ingler, Bellaire, O.; O. P Perkins, Zanesville, O.; E. L. Weisgerber, Newark, O.; Andrew Beckert, Sandusky, O.; F. J. Gunthur, Chicago Junction, O.; B. F. Lowther, Garrett, Ind.
General Foremen—F. W. Chaffee, Isaac Hussey, Thos. A. Smith, John Marshall, J. A. Ringrose, Baltimore, Md.; Geo. W. Humphreys, Washington, D. C.; Thos. Trezise, Sandy Hook, Md.; Wm. B. McClung, Wheeling, W. Va.; M. H. Scoville, Columbus, O.; W. H. Wilkinson, South Chicago, Ill.
Master Car Builders—L. Packard, Baltimore, Md.; F. G. Marquis, Pittsburgh Division, Connellsville, Pa.
Master Car Painters—Ed. L. Bigelow, Baltimore, Md.; J. H. Stout, Grafton, W. Va.; A. J. Moriarity, Newark, O.; Warren McNabb, Garrett, Ind.
Master of Road (Main Line)—S. R. Johnston, Baltimore, Md.; Assistants, B. J. Fendall, Baltimore, Md.; J. A. Hunter, Grafton, W. Va.
Assistant Master of Road Pittsburgh Div.—W. T. Manning, Connellsville, Pa.
Master of Road Trans-Ohio Division—David Lee, Newark, O.; Assistant, T. J. Frazier, Tiffin, O.

BALTIMORE & PHILADELPHIA—(See Philadelphia Branch Baltimore & Ohio).

BALTIMORE & POTOMAC AND ALEXANDRIA & FREDERICKSBURG—Gauge, 4-9. Miles operated, 112.
President—Oden Bowie, Baltimore, Md.
Vice President—Frank Thomson, Philadelphia, Pa.
General Manager—Charles E. Pugh, Philadelphia, Pa.
General Superintendent—H. F. Kenney, Philadelphia, Pa.
Asst. Superintendent—H. H. Carter, Wilmington, Del.
Chief Engineer—Wm. H. Brown, Philadelphia, Pa.
Secretary and Auditor—John Crowe, Baltimore, Md.
Treasurer—John S. Leib, Baltimore, Md.
General Passenger Agent—James R. Wood, Philadelphia, Pa.
Division Ticket Agent—E. S. Young, Baltimore, Md.
General Freight Agent—John S. Wilson, Philadelphia.
Division Freight Agent—W. H. Joyce. Baltimore, Md.
Purchasing Agent—A. W. Sumner, Baltimore, Md.
General Agent at Baltimore—Geo. C. Wilkins.
Superintendent Motive Power—J. M. Wallis, Philadelphia, Pa.
Assistant Engineer—A. C. Hippey, Wilmington, Del.
Supervisors—R. H. Nicholas, Bowie, Md.; R. M. Goundie, Washington, D. C.

BANGOR & KATAHDIN IRON WORKS—Gauge 4-8½. Miles operated, 18.9. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 31.
President—Chas. V. Lord, Bangor, Me.
Treasurer—F. W. Cram, Bangor, Me.

BANGOR & PISCATAQUIS—Gauge, 4-8½. Miles operated, 63. No. of locomotives, 4; passenger cars, 4; freight and miscellaneous cars, 86.
President—Moses Giddings, Bangor, Me.
General Superintendent, Passenger and Purchasing Agent—Arthur Brown, Bangor, Me.
Treasurer—H. W. Blood, Bangor, Me.
Master Mechanic—C. S. Nason, Bangor, Me.
Master Car Builder—J. W. Comins, Oldtown, Me.
Roadmaster—John Farquhar, Oldtown, Me.

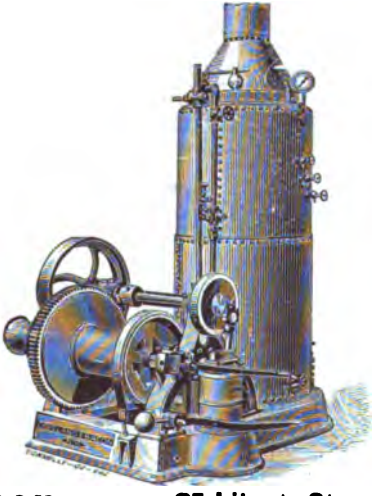
BANGOR & PORTLAND—Gauge, 4-8½. Miles operated, 34. No. of locomotives, 4; passenger cars, 5; freight and miscellaneous cars, 82.
President and General Manager—C. Miller, Blairstown, N. J.

BACON'S HOISTING ENGINES

(With and Without Boilers)

FOR

RAILROADS,
BRIDGE BUILDERS
PILE DRIVING,
CONTRACTORS,
QUARRIES,
MINING, Etc.



BUILT BY

COPELAND & BACON, 85 Liberty St., **NEW YORK.**

N. B.—Send for Illustrated Catalogue.

Railway Varnishes a Specialty.

CHARLES PULLMAN,
Agent Railroad Department,
Grand Pacific Hotel, Chicago.

General Superintendent—John D. Vail, Blairstown, N. J.
Chief Engineer—E. G. Wise, Belvidere, N. J.
Secretary—Geo. W. Mackey, Bangor, Pa.
Treasurer—John J. Miller, Portland, Pa.
Traffic Manager, General Passenger, Ticket, Baggage, and Freight Agent—Chas. N. Miller, Bangor, Pa.
Purchasing and Fuel Agent—C. Miller, Bangor, Pa.
Superintendent Motive Power and Machinery and Master Mechanic—John S. Hough, Nazareth, Pa.
Roadmaster—Michael Ducy, Nazareth, Pa.

BARCLAY—Gauge, 4-8½. Miles operated, 16¼. No. of locomotives, 6; passenger cars, 2; freight and miscellaneous cars, 200.
President—Samuel Hines, Scranton, Pa.
General Superintendent and Chief Engineer—F. F. Lyon, Barclay, Pa.
Secretary—A. R. McDonough, 21 Cortlandt st., New York.
Treasurer—B. W. Spencer, 21 Cortlandt st., New York.
Auditor—S. Little, 21 Cortlandt st., New York.
General Ticket Agent—John N. Abbott, 21 Cortlandt st., New York.
Purchasing Agent—John A. Hardenbergh, 21 Cortlandt st., New York.
Master Mechanic—Daniel McCarthy, Foot of Plane, Pa.
Roadmaster—H. H. Bentley, Towanda, Pa.

BATESVILLE & BRINKLEY—Gauge, 3. Miles operated, 32. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 50.
President—Wm. Black. Brinkley, Ark.
Secretary and Treasurer and General Manager—W. J. Thompson, Little Rock, Ark.
Auditor—R. W. Martin, Little Rock, Ark.
General Pass'r Ticket, Freight and Purch'g Agent—L. Salinger, Brinkley, Ark.
Chief Engineer—D. W. Durrow, Brinkley, Ark.
Supt. Motive Power and Machinery—John White, Brinkley, Ark.
Master Mechanic—T. S. Diffey, Brinkley, Ark.
Roadmaster—Joe Miller, Brinkley, Ark.

BATH & HAMMONDSPORT—Gauge, 3. No. of locomotives, 2; passenger cars, 4; freight and miscellaneous cars, 13.
President—Geo. W. Nichols, Hammondsport, N. Y.
Vice President—Jonathan Rolie, Bath, N. Y.
General Manager, Purchasing Agent and Foreman of Locomotive Repairs—Allen Wood, Hammondsport, N. Y.
General Superintendent and Freight Agent—M. H. Hall, Hammondsport, N. Y.
Secretary—J. W. Davis, Hammondsport, N. Y.
Treasurer—H. H. Cook, Bath, N. Y.
General Ticket Agent—Frank Wood, Hammondsport, N. Y.
Division Master Mechanic—S. S. Reynolds, Hammondsport, N. Y.
Roadmaster—John Fogarty, Hammondsport, N. Y.

BAY OF QUINTE RAILWAY & NAVIGATION CO.—Gauge, 4-8½. Miles operated, 4. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 25.
President—H. B. Rathbun, Deseronto, Ont.
Vice President—E. W. Rathbun, Deseronto, Ont.
General Manager—R. C. Carter, Deseronto, Ont.
Chief Engineer—M. J. Butler, Deseronto, Ont.
Secretary—W. R. Aylsworth, Deseronto, Ont.
Treasurer—F. S. Rathbun, Deseronto, Ont.
Auditor—G. A. Browne, Deseronto, Ont.
General Passenger Agent—F. W. Powell, Deseronto, Ont.
General Freight Agent—C. A. Millener, Deseronto, Ont.
Master Mechanic—James A. Davis, Deseronto, Ont.
Roadmaster—D. Wagar, Deseronto, Ont.

BEDFORD & BLOOMFIELD—Gauge, 3. Miles operated, 42. No. of locomotives, 5; passenger cars, 2; freight and miscellaneous cars, 80.
President—John Thomas, Indianapolis, Ind.
Vice President and Treasurer—W. C. Windstanley, Bedford, Ind.
General Superintendent and Purchasing Agent—J. W. Kennedy, Bedford, Ind.
Secretary—S. W. Morgan, Indianapolis, Ind.
General Freight Agent and Auditor—E. J. Robinson, Bedford, Ind.
Master Mechanic and Car Builder—R. Vandorn, Bedford, Ind.

BELLAIRE, ZANESVILLE & CINCINNATI—Gauge, 3. Miles operated, 59. No. of locomotives, 5; passenger cars, 6: freight and miscellaneous cars, 65.
President and General Manager—S. L. Mooney, Woodsfield, O.
Vice President—Col. M. Churchill, Zanesville, O.
Assistant General Manager—S. J. Cochran, Bellaire, O.
Chief Engineer—Edward Turner, Zanesville, O.
Secretary and Auditor—M. Hoeffien, Woodsfield, O.
Treasurer—Will C. Mooney, Woodsfield, O.
Master Mechanic—John Haney, Bellaire, O.
Roadmaster—J. K. Miller, Woodsfield, O.

GEO. R. MENEELY & CO.

WEST TROY, N. Y.

GEO. R. MENEELY.
T. W. GETMAN.

Atlanta Brass Foundry,

ATLANTA, GA.

A. B. BOSTICK, Agent.

MANUFACTURERS OF

HOPKINS' PATENT

SELF-FITTING JOURNAL BEARINGS

FOR RAILWAY CARS & ENGINES.

These Bearings were awarded the ONLY premium, a Silver Medal, at the National Exposition of Railway Appliances at Chicago, in June, 1883. Patent pronounced valid by both the Eastern and Western Railway Association. Bearings made of any required pattern, of different qualities of bronze, polished out on face, and finished with Hopkins' Patent Self-fitting Lining, which speedily *fits itself to any journal, new or old*, effectually obviating heating and increasing the service more than 50 per cent. over unlined brasses. The most *reliable* and *economical* bearings in use. Adopted by the principal railroads of the country for passenger and freight service.

Old bearings taken in exchange. No charge for pattern making, packing or delivery.

Price and Pattern Lists for over 800 patterns) furnished upon application.

WORTHINGTON STEAM PUMPS

SPECIAL PATTERNS FOR

Railway Water Stations

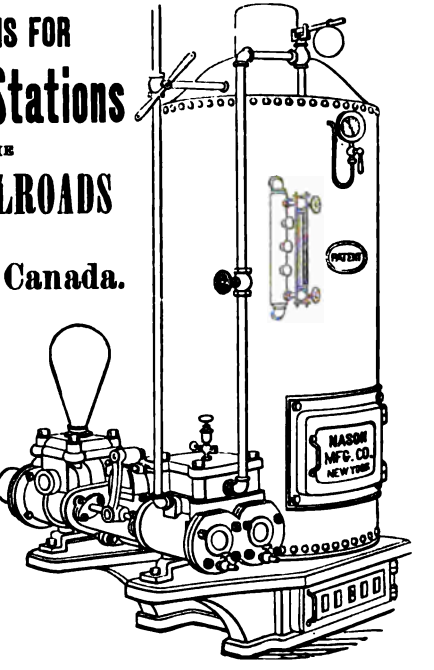
USED ON ALL THE

PRINCIPAL RAILROADS

— OF THE —

United States & Canada.

Send for Circular.



Henry R. Worthington.

NEW YORK,
BOSTON,
CHICAGO,
ST. LOUIS,
SAN FRANCISCO.

BELL'S GAP—Gauge, 4-9. No. of locomotives, 4; freight and miscellaneous cars, 60.
President—Chas. F. Berwind, 216 South Third st., Philadelphia
General Superintendent and Purchasing Agent—R. G. Ford, Bellwood, Pa.
Chief Engineer—F. L. Faries, Bellwood, Pa.
Secretary—S. T. Billmeyer, 209 South Third st., Philadelphia.
Treasurer—J. G. Cassatt, 305 Walnut st., Philadelphia.
Acting General Freight and Passenger Agent—W. D. Holliday, Bellwood, Pa.
Master Mechanic—Geo. Van Brunt, Bellwood, Pa.
Master Car Builder—A. Zimmerman, Bellwood, Pa.
Roadmasters—W. A. Ford and Thos. Beard, Bellwood, Pa.

BENNINGTON & GLASTENBURY—Gauge, 4-8½. Miles operated, 9.
President—R. C. Root, Bennington, Vt.

BENNINGTON & RUTLAND—Gauge—4-8½. Miles operated, 57. No. of locomotives, 8; passenger cars, 7; freight and miscellaneous cars, 203.
President—S. B. Hall, North Bennington, Vt.
General Superintendent and Purchasing Agent—F. C. White, Bennington, Vt.
Secretary—Geo. W. Harman, Bennington, Vt.
Treasurer—Chas. E. Houghton, North Bennington, Vt.
Auditor—W. G. Shaw, North Bennington, Vt.
General Freight Agent—H. W. Spafford, North Bennington, Vt.
Master Mechanic—Geo. W. Blanchard, Rutland, Vt.
Division Master Mechanic—Chas. S. Clapp, Bennington, Vt.
Roadmaster—A. G. Coomer, North Bennington, Vt.

BLADEN, COLUMBUS & FLORIDA—Gauge, 4-8½. Miles operated, 16.
President—John Colville, Wilmington, N. C.
General Manager, Secretary and Treasurer—A. R. Campbell, Wilmington, N.C.
General Superintendent and Chief Engineer—W. C. Irons, Abbottsburgh, N.C.
Auditor and Gen'l Ticket and Pass'r Agent—John Nutt, Jr., Abbottsburg, N.C.
General Freight Agent—C. B. Mallett, Wilmington, N. C.

BODIE & BENTON RAILWAY AND COMMERCIAL CO.—Gauge, 3. Miles operated, 36. No. of locomotives, 4; freight and miscellaneous cars, 60.
President—Thomas Menzes, San Francisco, Cal.
Vice President—A. J. Ralston, San Francisco.
General Superintendent, Chief Engineer and Purchasing Agent—Thomas Holt, Bodie, Cal.
Chief Clerk—G. F. Lyman, Bodie.
Secretary and Treasurer—Wm. Willis, San Francisco,
Master Mechanic—E. H. Barton, Bodie.
Master Car Builder—James Wyman, Bodie.
Roadmaster—C. H. Johnson, Bodie.

BOSTON & ALBANY—Gauge, 4-8½. Miles operated, 371.36. No. of locomotives, 244; passenger cars, 219; freight and miscellaneous cars, 6,035.
President—William Bliss, Boston, Mass.
Vice President and Secretary—James A. Rumrill, Springfield, Mass.
General Superintendent—W. H. Barnes, Boston, Mass.
Assistant General Sup't and Passenger Agent—E. Gallup, Springfield, Mass.
Chief Engineer and Roadmaster—W. H. Russell, Springfield, Mass.
Assistant Chief Engineer and Roadmaster—G. R. Hardy, Boston, Mass.
Treasurer—C. E. Stevens, Boston, Mass.
Auditor—M. E. Barber, Springfield, Mass.
General Ticket Agent—J. M. Griggs, Springfield, Mass.
General Baggage Agent—Geo. A. Morton, Boston.
General Freight Agent—A. Mills, Boston.
Sup't Motive Power and Machinery—A. B. Underhill, Springfield, Mass.
Division Master Mechanics—Geo. Colby, Boston; W. H. Eddy, Springfield Mass.; T. B. Purvis, E. Albany, N. Y.
Master Car Builder—F. D. Adams, Allston, Mass.
Foremen of Car Repairs—J. B. Weston, Springfield, Mass.; James E. Doran, E. Albany, N. Y.
Master Car Painters—W. Hibbard, Allston, Mass.; W. H. Stevens, Springfield, Mass.
Division Superintendents—H. B. Chesley, Boston; C. E. Grover, Springfield, Mass.; W. H. Russell, Jr., E. Albany, N. Y.

BOSTON, BARRE & GARDNER—Gauge, 4-8½. Miles operated, 37. No. of locomotives, 9; passenger cars, 9; freight and miscellaneous cars, 360.
President—Henry M. Witter, Worcester, Mass.
Superintendent, Traffic Manager and Purchasing Agent—H. H. Marshall, Worcester, Mass.
Treasurer—William E. Starr, Worcester, Mass.
Auditor—F. H. Mason, Worcester, Mass.
General Passenger, Ticket and Baggage Agent—W. M. Anthony, Worcester.
Master Mechanic and Master Car Builder—F. I. Goodwin, Worcester, Mass.
Roadmaster—H. H. Healey, Worcester, Mass.

BOSTON, CONCORD, MONTREAL & WHITE MOUNTAINS—Gauge, 4-8½. Miles operated, 185. No. of locomotives, 38,
President—J. Thomas Vose, Boston,

BOSTON BRIDGE WORKS,

D. H. ANDREWS, Engineer.

WROUGHT IRON

RAILWAY and HIGHWAY BRIDGES,

VIADUCTS, TURN-TABLES, GIRDERS, BEAMS AND ROOFS.

Designers and Builders of all kinds of

WROUGHT IRON STRUCTURAL WORK.

OFFICE, 13 Pemberton Square, BOSTON, MASS.

Works on Grand Junction R. R., Cambridgeport.

CHICAGO

TYRE AND SPRING WORKS

MANUFACTURERS OF

CAST STEEL

LOCOMOTIVE.

TYRES

Any Specification.

WORKS:

MELROSE,

ILL.

CAST STEEL

CAR

SPRINGS,

of Every Description.

OFFICE:

92 Washington St.,

CHICAGO, ILL.

F. M. ATKINSON, Pres. | C. H. FERRY, Treas.

Vice President—S. N. Bell, Manchester, N. H.
Superintendent—W. A. Stowell, Plymouth, N. H.
Assistant Superintendent—F. T. Lewis, Plymouth, N. H.
Chief Engineer—C. O. Foss, Concord, N. H.
Assistant Chief Engineer—F. C. Merrill, Concord, N. H.
Cashier—W. A. Cobb, Plymouth, N. H.
Treasurer—Edward D. Harlow, Boston.
General Ticket Agent—W. R. Brackett, Plymouth, N. H.
General Freight Agent—J. H. Carpenter, Plymouth, N. H.
Purchasing Agent—Geo. W. Storer, Boston.
Fuel Agent—G. E. Cummings, Woodsville, N. H.
Master Mechanic—Ralph Adams, Lake Village, N. H.
Assistant Mechanic—G. A. Ferguson, Lake Village, N. H.
Master Car Builder—L. D. Pickering, Lake Village, N. H.
Division Superintendent—B. H. Corning, Fabyans, N. H.
Roadmaster—L. D. Badger, Lake Village, N. H.

BOSTON, HOOSAC TUNNEL & WESTERN—Gauge, 4-8½. Miles operated, 94. No. of locomotives, 25; passenger cars, 28; freight and miscellaneous cars, 1,009.
President—Augustus Kountze, 120 Broadway, New York.
Vice President—J. T. Kennedy, New York.
General Manager—H. L. Morrill, Saratoga Springs, N. Y.
Superintendent, Master Mechanic and Purchasing Agent—C. H. Cory, Mechanicville, N. Y.
Chief Engineer—Jos. O. Osgood, Saratoga Springs, N. Y.
Secretary—A. T. Smith, 120 Broadway, New York.
Treasurer—D. B. Hatch, 120 Broadway, New York.
Auditor and Assistant Treasurer—A. Gorham, Saratoga Springs, N. Y.
General Passenger, Ticket and Freight Agent—A. S. Crane, Mechanicville, N. Y.
Master Car Builder—John Ellis, Mechanicville, N. Y.
Master Car Builder—Thos. McCassy, Mechanicville, N. Y.
Roadmaster—Geo. McMullen, Mechanicville, N. Y.

BOSTON & LOWELL—Gauge, 4-8½. Miles operated, 170. No. of locomotives, 81; passenger cars, 102; freight and miscellaneous cars, 1,713.
President—J. G. Abbott, Boston, Mass.
Superintendent—C. S. Mellen, Boston.
Chief Engineer—I. M. Story, Boston.
Treasurer—C. E. A. Bartlett, Boston.
General Passenger and Ticket Agent—B. F. Kendrick, Boston.
General Freight Agent—H. N. Turner, Boston.
Purchasing and Fuel Agent—F. H. Nourse, Boston.
Superintendent Transportation and Machinery—J. F. Crockett, Boston.
Foremen of Locomotive Repairs—E. T. Sumner, East Cambridge, Mass.; A. J. Gifford, Lowell, Mass.
Foremen of Car Repairs—J. K. Hall, Nashua, N. H.; C. M. Coner, East Cambridge, Mass.
Master Car Painter—W. A Harnden, East Cambridge, Mass.
Roadmasters—N. B. Taplin, Boston; J. T. Goss, Lowell, Mass.; William Hutchinson, Nashua, N. H.

BOSTON & MAINE—Gauge, 4-8½. Miles operated, 204.20. No. of locomotives, 91; passenger cars, 163; freight and miscellaneous cars, 2,170.
President—Geo. C. Lord, Boston, Mass.
General Superintendent—James T. Furber, Boston.
Assistant Superintendent—Wm. Merritt, Jr., Boston.
Chief Engineer—E. W. Lydston, Boston.
Treasurer—Amos Blanchard, Boston.
Auditor—H. W. B. Wightman, Boston.
General Passenger and Ticket Agent—D. J. Flanders, Boston.
General Baggage Agent—A. Sturtevant, Boston.
General Freight Agent—W. J. C. Kenney, Boston.
Purchasing Agent—George J. Fisher, Boston.
Fuel Agent—A. Perkins, Boston.
Master Mechanic—Wm. Smith, Boston.
Master Car Builder—D. C. Richardson, Lawrence, Mass.
Roadmasters—John Bailey, Lawrence, Mass.; E. A. Smith, Great Falls, N. H.

BOSTON & PROVIDENCE—Gauge, 4-8½. Miles operated, 66. No. of locomotives, 52; passenger cars, 129; freight and miscellaneous cars, 802.
President—H. A. Whitney, Boston, Mass.
General Superintendent and Purchasing Agent—A. A. Folsom, Boston.
General Ticket Agent—James Daily, Boston.
General Freight Agent—W. H. Morrell, Boston.
Master Mechanic—George Richards, Boston.
Master Car Builder—John Lightner, Boston.
Treasurer—B. B. Torrey, Boston.
Roadmasters—D. L. Davis, Readville, Mass.; D. S. Hill, Dedham, Mass.; N. B. Phillips, Stoughton, Mass.; E. Merrill, Mansfield, Mass.; Isaiah Hoyt, Rumford, Mass.

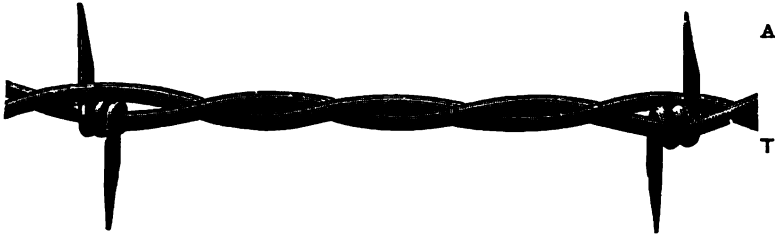
BOSTON, REVERE BEACH & LYNN—Gauge, 3. Miles operated, 9, and ferry 1 mile. No. of locomotives, 6; passenger cars, 28; freight and miscellaneous cars, 18.

THE GLIDDEN PATENT STEEL BARB FENCE WIRE

THE PIONEER BARB FENCING.

Over One Hundred Railway Companies are using it, including nearly all the Chicago Trunk Lines.

MORE IN USE THAN ALL OTHERS COMBINED.



Special Features of the GLIDDEN:

ALL NEW INGOT STEEL. FULL NO. 12 MAIN WIRES. LEAST MATERIAL IN BARBS, MAKING FENCING LIGHTEST PER ROD, SHARPEST BARB. BARB IMMOVABLY ATTACHED TO WIRE. GREATEST NUMBER OF BARBS PER ROD. MOST PERFECTLY MADE.

The Glidden Barbs are only four and three-fourths inches apart (the 'Thick-Set" only 2 1-2 inches apart,) giving GREATEST PROTECTION. Notwithstanding this fact, it has LEAST WEIGHT in the BARB and MOST WEIGHT IN THE MAIN STRANDS of any other Barb Fencing.

Our Galvanized Wire, being treated by the ENGLISH PROCESS, is guaranteed 11 1-2 per cent. stronger than before being galvanized, and makes AN INDESTRUCTIBLE FENCE.

Samples, Pamphlets and References furnished on application. Correspondence Solicited.

ADDRESS THE MANUFACTURERS,

I. L. ELLWOOD & CO., - - - De Kalb, Illinois.

President—Edwin Walden, 350 Atlantic avenue, Boston.
Superintendent and Purchasing Agent—C. A. Hammond, 350 Atlantic avenue, Boston.
Treasurer and General Ticket Agent—John A. Fenno, 350 Atlantic avenue, Boston.
Master Mechanic—J. L. Folsom, Winthrop Junction, East Boston.
Master Car Builder—J. Coghlan, Winthrop Junction, East Boston.
Roadmaster—Charles Lovoix, Winthrop Junction, East Boston.

BOSTON, WINTHROP & SHORE—Consolidation of the Boston, Winthrop, & Point Shirley, Boston and Winthrop, and Eastern Junction, Broad Sound Pier & Point Shirley. Gauge, 7 miles, 4-8½; 3½ miles, 3. Miles operated, 11. No. of locomotives, 1; passenger cars, 3; freight and miscellaneous cars, 5.
President—Samuel W. Hale, 70 Kilby st., Boston.
Vice President—John H. Buttrick, 70 Kilby st., Boston.
General Manager—A. P. Blake. 70 Kilby st., Boston.
Secretary, Treasurer, and General Ticket and Purchasing Agent—C. A. Parks, 70 Kilby st., Boston.
Master Mechanic—J. W. Davis, 70 Kilby st., Boston.

BOWLING GREEN—Gauge, 4-8½. Miles operated, 6. No. of locomotives, 2; passenger cars, 3.
General Manager and Purchasing Agent—Wm. A. Wiggins, Bowling Green, O.
Chief Engineer—H. B. Wiggins, Bowling Green, O.
General Freight Agent—Wm. D. Allen, Bowling Green, O.
Master Mechanic—Howard Wiggins, Bowling Green, O.

BRADFORD, BORDELL & KINZUA—Gauge, 3. Miles operated, 40. No. of locomotives, 6; passenger cars, 8; freight and miscellaneous cars, 90.
President—John J. Carter, Bradford, Pa.
Vice President—R. G. Taylor, Bradford.
General Manager and Purchasing Agent—B. C. Williams, Bradford.
Secretary—John E. Ransom, Buffalo, N. Y.
Treasurer—B. W. Spencer, New York.
Auditor—A. J. McDowell, New York.
General Passenger and Freight Agent—John C. McKenna, Bradford.
Master Mechanic, Master of Transportation and Roadmaster—John Delaney, Bradford.

BRADFORD, ELDRED & CUBA—Gauge, 3. Miles operated, 54. No. of locomotives, 6; passenger cars, 8; freight and miscellaneous cars, 125.
President—R. G. Taylor, Bradford, Pa.
Vice President—G. R. Blanchard, New York.
General Manager and Purchasing Agent—B. C. Williams, Bradford, Pa.
Secretary—John E. Ransom, Buffalo, N. Y.
Treasurer—B. W. Spencer, New York.
Auditor—A. J. McDowell, New York.
General Passenger and Freight Agent—John C. McKenna, Bradford, Pa.
Master Mechanic and Master Transportation—John Delaney, Bradford, Pa.
Roadmaster—J. F. Ross, Little Genesee, N. Y.

BRIDGTON & SACO RIVER—Gauge, 2. Miles operated, 16. No. of locomotives, 2; cars, 19.
President—Wm. F. Perry, Bridgton, Me.
Treasurer—P. P. Burnham, Bridgton, Me.
Superintendent—G. E. Mansfield, Bridgton, Me.

BRIGHTHOPE—Gauge, 3. Miles operated, 32. No. of locomotives, 4; passenger cars, 2; freight and miscellaneous cars, 144.
President—James H. Young, Mills Building, New York.
Vice President—Franklin Stearns, No. 15 Fifteenth st., Richmond, Va.
General Superintendent and Treasurer—James R. Werth, 703 E. Main st., Richmond.
Chief Engineer—H. A. Whiting, 703 E. Main st., Richmond.
Secretary, Auditor and General Passenger, Ticket and Freight Agent—G. M. Wilson, 703 E. Main st., Richmond.
Purchasing Agent—P. M. Buckingham, 703 E. Main st., Richmond.
Superintendent Motive Power and Machinery—A. Gary, Winterpock, Va.
Master Mechanic—R. F. Kredell, Chester, Va.
Roadmaster—W. B. Strother, Chester.

BROOKLYN, BATH & CONEY ISLAND—Gauge, 4-8½. Miles operated, 7. No. of locomotives, 8; passenger cars, 32; freight and miscellaneous cars, 9.
President—C. Godfrey Gunther, Twenty-seventh st. and Fifth av., Brooklyn, N. Y.
Vice President—Wm. A. Martin, Twenty-seventh st. and Fifth av., Brooklyn.
General Manager, Secretary and Treasurer and Purchasing Agent—Geo. A. Gunther, Twenty-seventh st. and Fifth av., Brooklyn.
General Passenger and Ticket Agent—Edward Meerholz, Twenty-seventh st. and Fifth av., Brooklyn.
Master Mechanic and Roadmaster—Aug. Wolff, Twenty-seventh st. and Fifth av., Brooklyn.
Master Car Painter—J. M. Ashton, Twenty-seventh st. and Fifth av., Brooklyn

BRUNSWICK & WESTERN—Gauge, 5. Miles operated, 171. No. of locomotives, 10; passenger cars, 4; freight and miscellaneous cars, 150.
President—Fred. Wolffe, 35 William st., New York.
General Manager and Purchasing Agent—H. S. Morse, Brunswick, Ga.
Chief Engineer—C. R. Wise, Brunswick, Ga.
Secretary—M. Calm, 35 William st., New York.
Treasurer—Abram E. Bamberger, 35 William st., New York.
General Passenger, Ticket and Freight Agent—O. S. Benson, Brunswick, Ga.
Fuel Agent—W. O. Hall, Brunswick, Ga.
Master Mechanic and Car Builder—W. R. Kline, Brunswick, Ga.
Roadmasters—J. Calnan, Eastern Division, Brunswick, Ga.; A. C. Douglas, Western Division, Pearson, Ga.

BUCKSPORT & ELLSWORTH—Gauge, 4-8½. Miles operated, 20. No. of locomotives, 8; passenger cars, 10; freight and miscellaneous cars, 40.
President—D. W. C. Folsom, Buckport, Me.
General Manager—Howard H. Lowell, Bucksport, Me.
Chief Engineer—Gus. Mooney, Bucksport, Me.
Treasurer—F. H. Royal, Bucksport, Me.
Master Car Builder—J. P. Ames, Bucksport, Me.
Division Superintendent—W. A. Heywood, Bucksport, Me.
Roadmaster—Daniel Costello, Bucksport, Me.

BUFFALO CREEK—Gauge, 4-8½. Miles operated, 15. No. of locomotives, 5.
General Superintendent—R. F. Goodman, Buffalo, N. Y.
Assistant Superintendent—Geo. W. Dowe, Buffalo.

BUFFALO, NEW YORK & PHILADELPHIA—Gauge, 599½ miles, 4-8½; 70 miles, 3. Miles operated, 669½. No. of locomotives, 120; passenger cars, 118; freight and miscellaneous cars, 5,856.
President—J. W. Jones, Philadelphia.
First Vice President—Calvin H. Allen, Mills Building, New York.
Second Vice President—Archer N. Martin, 34 Pine st., New York.
General Manager—Oliver Watson, Buffalo, N. Y.
General Superintendent—Geo. S. Gatchell, Buffalo.
Chief Engineer—R. D. McCreary, Oil City, Pa.
Secretary—Joseph R. Trimble, South Third st., Philadelphia.
Treasurer—F. S. Buell, Buffalo.
Auditor—Wm. L. Doyle, Buffalo.
General Traffic Manager—E. T. Johnson, Buffalo.
General Passenger Agent—W. S. Baldwin, Buffalo.
General Freight Agent—G. A. Baker, Buffalo.
Purchasing Agent—J. H. Poole, Buffalo.
Division Master Mechanics—Allen Vail, Buffalo; H. J. Bookhammer, Oil City.
Division Superintendents—Henry Dwyer, Buffalo Division, Buffalo; E. H. Witter, Pittsburgh Division, Oil City, Pa.; A. Van Divort, River Division, New Castle, Pa.; R. M. Patterson, Rochester Division, Rochester, N. Y.; J. W. Watson, Narrow Gauge Division, Olean, N. Y.
Roadmaster—Thos. Hilliard, Titusville, Pa.

BURLINGTON, CEDAR RAPIDS & NORTHERN—Gauge, 4-8½. Miles operated, 713.4. No. of locomotives, 76; passenger and baggage cars, 46; freight and miscellaneous cars, 2,927.
President—Judge J. Tracy, Burlington, Ia.
General Superintendent—C. J. Ives, Cedar Rapids, Ia.
Superintendent—R. Williams, Cedar Rapids.
Assistant Superintendent—John C. Fox, Cedar Rapids.
Chief Engineer—H. F. White, Cedar Rapids.
Secretary—S. S. Dorwart, Cedar Rapids.
Treasurer—H. H. Hollister, New York.
Assistant Treasurer—C. Stickney, Cedar Rapids.
Auditor—J. C. Brocksmit, Cedar Rapids.
General Passenger and Ticket Agent—B. F. Mills, Cedar Rapids.
General Freight Agent—J. E. Utt, Cedar Rapids.
Purchasing Agent—T. Stickney, Cedar Rapids.
Master Mechanic and Master Car Builder—R. W. Bushnell, Cedar Rapids.
Foreman of Locomotive Repairs—G. Y. Smith, Cedar Rapids.
Foreman of Car Repairs—Wm. Voss, Cedar Rapids.
Foreman Car Painters—Wm. Linter, Cedar Rapids.
Roadmasters—M. Sullivan, Cedar Rapids; J. Killy, Nora Junction, Ia.; P. O'Neil, Iowa Falls, Ia.; P. Howe, Estherville, Ia.; J. H. Sheehy, Independence, Ia.; J. Davis, Riverside, Ia.

BURLINGTON & LAMOILLE—Gauge, 4-8½. Miles operated, 34. No. of locomotives, 3; passenger cars, 6; freight and miscellaneous cars, 52.
President—D. C. Linsley, Burlington, Vt.
Vice President—C. M. Spaulding, Burlington.
General Manager—G. L. Linsley, Burlington.
Secretary and Treasurer—E. W. Peck, Burlington.
General Passenger, Ticket and Freight Agent—H. N. Leach, Burlington.
Cashier—C. H. Clark, Burlington.
Master Mechanic—F. G. Brownell, Burlington.
Roadmaster—J. F. Day, Colchester, Vt.

BURLINGTON & MISSOURI RIVER IN NEBRASKA—Gauge, 4-8½. Miles operated, 1,343.3. No. of locomotives, 97; passenger cars, 60; freight and miscellaneous cars, 4,077.
President—C. E. Perkins, Burlington, Ia.
Vice Presidents—Second, J. C. Peasley, Chicago, Ill.; Third and General Manager, T. J. Potter, Chicago, Ill.
Assistant General Manager—George W. Holdredge, Omaha, Neb.
General Superintendent and Chief Engineer—T. E. Calvert, Lincoln, Neb.
Consulting Engineer—Robert J. McClure, Chicago, Ill.
Assistant Treasurer—J G. Taylor, Omaha, Neb.
Secretary—A. G Stanwood, Boston, Mass.
Treasurer—E. E Pratt, Boston, Mass.
Auditor—C. D. Dorinan, Omaha, Neb.
General Passenger and Ticket Agent—P. S. Eustis, Omaha, Neb.
General Baggage Agent—T. Marsland, Lincoln, Neb.
General Freight Agent—Thomas Miller, Omaha, Neb.
Purchasing Agent—W. Irving, Chicago.
Master Mechanic—D. Hawksworth, Plattsmouth, Neb.
Supply Agent—C. M. Wead, Plattsmouth, Neb.
Master Car Painters—D. B Smith, Plattsmouth, Neb.
Division Superintendents—D. E. Thompson, Lincoln, Neb.; J. McConniff, Lincoln, Neb.; A Campbell, McCook, Neb.
Roadmasters—J. P. Taylor, Plattsmouth, Neb.; J. H. Dailey, Lincoln, Neb.; J. N. Leahy, Nebraska City, Neb.; J. C. Cornell, Beatrice, Neb.; Dan'l Sullivan, White Cloud, Neb.; C. B. Rodgers, Wymore, Neb.; E. F. Highland, Red Cloud, Neb.; E. Zook, Akron, Neb.; J. R. Phelan, McCook, Neb.; C, Cain, Lincoln, Neb.

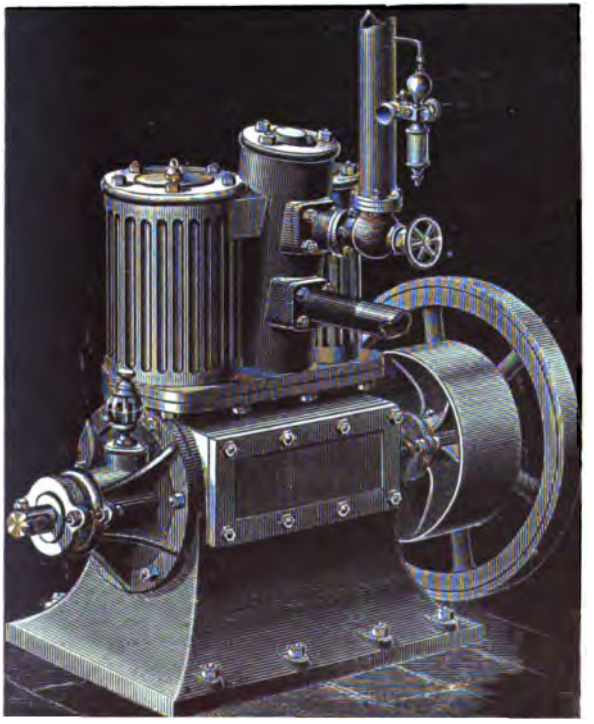
BURLINGTON & NORTHWESTERN AND BURLINGTON & WESTERN—Gauge, 3. Miles operated, 123. No. of locomotives, 6; passenger cars, 9; freight and miscellaneous cars, 202.
President—T. W. Barhydt, Burlington, Ia.
Assistant Superintendent and Purchasing Agent—W. B. Jones, Burlington.
Acting Chief Engineer—A. F. Tracy, Oskaloosa, Ia.
Secretary and Treasurer—R. M. Green, Burlington.
Auditor—J. A. Ostrander, Burlington.
General Passenger, Ticket and Freight Agent—E S. Edger, Burlington.
Foreman of Locomotive Repairs and Master Car Builder—Henry Sieben, Burlington.

BURLINGTON & OHIO RIVER—Gauge, standard. 8 miles completed; 32 miles under construction.
President—James Walker, Scottville, Ill.
Chief Engineer—W. F. Garris, Carlinville, Ill.
Secretary—W F. Burton, Carlinville.
Treasurer—Milton McClure, Carlinville.
Auditor—W. D. Pence, Carlinville.

CALIFORNIA NORTHERN—Gauge, 4-8½. Miles operated, 26½. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 14.
General Manager and Secretary—Andrew J. Binney, Marysville, Cal.
Master Mechanic—E. S. Wright, Marysville.
Foreman Bridge and Car Repairs—Geo. W. Neal, Marysville.
Roadmaster—E. P. Willard, Honcut Station, Cal.

CALIFORNIA SOUTHERN—Gauge, 4-8½. Miles operated, 130. No. of locomotives, 13; passenger cars, 11; freight and miscellaneous cars, 230.
President—Thos. Nickerson, Boston, Mass.
Treasurer—S. W. Reynolds, Boston.
Auditor—J. H. Goodspeed, Boston.
Superintendent—J. N. Victor, National City, Cal.
Secretary—F. H. Pattee, National City, Cal.
Chief Engineer—T. T. Perres, National City, Cal.
Master Mechanic—J. M. Keith, National City, Cal.

CAMDEN & ATLANTIC—Gauge, 4-8½. Miles operated, 83. No. of locomotives, 18; passenger cars, 68; freight and miscellaneous cars, 241.
President—W. L. Elkins, 233 S. Fourth st., Philadelphia.
Vice President—Hon. W. J. Sewell, Camden, N. J.
General Manager—Chas. E. Pugh, 233 S. Fourth st., Philadelphia.
Superintendent—W. N. Bannard, Camden.
Chief Engineer—Wm. H. Brown, 233 S. Fourth st., Philadelphia.
Secretary—D. M. Zimmerman, Camden.
Treasurer—Dr. Wm. Taylor, 233 S. Fourth st., Philadelphia.
Auditor—T. R. Davis, 233 S. Fourth st., Philadelphia.
Sup't Transportation—John Reilly, Broad Street Station, Philadelphia.
General Passenger Agent—J. R. Wood, 233 S. Fourth st., Philadelphia.
General Baggage Agent—J. H. Reynolds, Market Street Ferry, Philadelphia.
General Freight Agent—John S. Wilson, 233 S. Fourth st., Philadelphia.
Purchasing Agent—Enoch Lewis, 233 S. Fourth st., Philadelphia.
Sup't Motive Power and Machinery—H. S. Hayward, Jersey City, N. J.
Master Mechanic—Rufus Hill, Camden, N. J.
Master Car Builder—Sam'l Wills, Camden, N. J.
Roadmaster—J. C. Bishop, Berlin, N. J.



GEORGE WESTINGHOUSE, Jr., President.
H. H. WESTINGHOUSE, Vice President.
RALPH BAGALEY, Secretary and Treasurer.
WILLIAM LEE CHURCH, General Agent.
HARRIS TABOR, Superintendent.

THE

Westinghouse Automatic Engine.

ITS LEADING POINTS ARE:

Low Cost of Repairs, Great Durability,
Low Cost of Attendance, Great Power in Small Space,
Low Cost of Foundations, Extreme Accuracy of Governing.

A Strictly First-Class Automatic Engine of Moderate Price.

ESPECIALLY ADAPTED TO COUPLING DIRECT TO LINES OF SHAFTING.

Send for Illustrated Circular and Reference List, and State the Horse Power Required.

THE WESTINGHOUSE MACHINE CO.,

PITTSBURGH, - - PA.

BRANCH OFFICES:

94 Liberty Street, NEW YORK — 14 South Canal Street, CHICAGO — 401 Elm Street, DALLAS, TEXAS

CAMDEN, GLOUCESTER & MT. EPHRAIM—Gauge, 4. Miles operated, 7.
President and Purchasing Agent—James P. Michelion, Camden, N. J.
Secretary, Treasurer, General Passenger, Ticket and Freight Agent—F. P. Pfeiffer, Gloucester City, N. J.
Auditor—Frank F. Michelion, Camden, N. J.
Master Mechanic—Charles Wood, Camden, N. J.
Roadmaster—Samuel Bell, Camden, N. J.

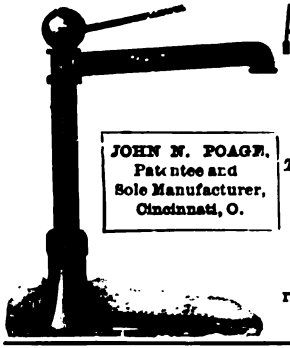
CANADA ATLANTIC—Gauge, 4-8½. Miles operated, 82½.
President—E. McGillivray, Ottawa, Ont.
Vice President—McLood Stewart, Ottawa, Ont.
General Manager—D. C. Linsley, Ottawa, Ont.
Chief Engineer—Walter Shanly, Montreal.
Secretary and Treasurer—A. W. Fleck, Ottawa, Ont.
Auditor—A. G. Peden, Ottawa, Ont.
General Passenger and Freight Agent—E. C. Winnie, Ottawa, Ont.
Master Mechanic—M. Donaldson, Ottawa, Ont.
Foreman of Locomotive Repairs—M. Wakefield, Ottawa.
Supervisor—G. W. Lampman, Ottawa, Ont.

CANADIAN PACIFIC—Gauge, 4-8½. Miles operated, 2,383. No. of locomotives, 186; passenger cars, 118; freight and miscellaneous cars, 5,353.
President—Geo. Stephen, Montreal, Can.
First Vice President—Duncan McIntyre, Montreal.
Second Vice President—R. B. Angus, Montreal.
General Manager—W. C. Van Horne, Montreal.
Assistant to the General Manager and Purchasing Agent—Thos. G. Shaugnessy, Montreal.
General Superintendent Western Division—John M. Egan, Winnipeg, Man.
General Superintendent Eastern Division—Archer Baker, Montreal, Can.
Assistant Superintendent Eastern Division—C. W. Spencer, Ottawa.
Secretary—Charles Drinkwater, Montreal.
Treasurer—W. Sutherland Taylor, Montreal.
Auditor—I. G. Ogden, Jr., Montreal.
Assistant Traffic Manager—W. Harder, Winnepeg, Man.
Assistant General Passenger Agent—G. W. Hibbard, Montreal Can.
General Freight Agent Eastern Division—G. M. Bosworth, Montreal.
Fuel Agent—Wm. Skead, Winnipeg, Man.
Mechanical Superintendent—F. R. F. Brown, Montreal Can.
Division Master Mechanics—Eastern Division, W. Cross, Montreal; Western Division, W. T Reid, Winnipeg, Man.
General Locomotive Foreman—R. Gilmore, Montreal.
General Car Foreman—S. Oakley, Mon'real.
Master Car Painter—C. Henry, Montreal.
Division Superintendents—John Niblock, Port Arthur, Ont.; Wm. Brown, Winnipeg; I. Murray, Moose Jaw, N. W. Ter.; C. Shields, Medicine Hat, N. W. Ter.
Roadmasters Western Division—J. Donovan, Winnipeg; J. S. Conners, Winnipeg; A. McClay, Rat Portage, Can.; C. J. Panser, Winnipeg; A. Johnson, Rat Portage, Can.; J. Guildford, Ignace, Can.; M. Lillis, Broadview, N. W. Ter.; Thos. Murray, Moose Jaw, N. W. Ter.; P. D. Burke, Medicine Hat, N. W. Ter.; M. Nugent, Brandon, Can.; T. Lindberg, Swift Current, Can. Eastern Division—John Shanks, Lachute; I. Jelly, Carleton Place; W. Shanks, Carleton Place; R. Shanks, Mattawa; I. Cummings, North Bar. Can.

CAPE FEAR & YADKIN VALLEY—Gauge, 4-8½. Miles operated, 75. No. of locomotives, 4; cars, 44.
President—Julius A. Gray, Greensboro, N. C.
General Sup't and Purchasing Agent—James S. Morrison, Fayetteville, N. C.
Secretary, Auditor, General Passenger, Ticket and Freight Agent—John M. Rose, Fayetteville, N. C.
Treasurer—N. A. Siedmens, Fayetteville, N. C.
Master Mechanic—I. W. Clark, Fayetteville, N. C

CAPE GIRARDEAU & SOUTHWESTERN—Gauge, 4-8½. Miles operated 29. No. of locomotives, 3; passenger cars, 30.
President and General Manager—Louis Houck, Cape Girardeau, Mo.
Vice President—Wm. Brown, Brownwood, Mo.
General Superintendent—Wm. A. Penney, Cape Girardeau, Mo.
Secretary, Auditor, General Passenger, Ticket and Freight Agent—T. F. Wheeler, Cape Girardeau, Mo.
Treasurer—Leon J. Albert, Cape Girardeau, Mo.
Purchasing Agent—Will H. Wheeler, Cape Girardeau, Mo.
Master Mechanic—N. W. Kitchel, Cape Girardeau, Mo.
Roadmaster—Richard Berry, Cape Girardeau, Mo.

CARILLON & GRENVILLE—Gauge, 5-6. Miles operated, 13. No. of locomotives, 3; passenger cars, 6; freight and miscellaneous cars, 6.
President—G. W. Simpson, Montreal, Can.
Vice President—H. W. Shepherd, Montreal.
General Manager and Purchasing Agent—R. W. Shepherd, Jr., Montreal.
Chief Engineer and Master Mechanic—John Halsey, Carillon, Can.
Secretary and Treasurer—Edward Scott, Montreal.
Master Car Builder—Alfred Boislow, Carillon.
Roadmaster—Alex. Noveau, Carillon.



AUTOMATIC WATER COLUMN.

"STANDARD."

The Fireman draws it around and depresses the lever.

JOHN N. POAGE,
Patentee and
Sole Manufacturer,
Cincinnati, O.

The acts of closing valve, opening and closing drain valve and returning to its position parallel to the track, are all

AUTOMATIC.

It is being adopted by many of the leading railroads. Two sizes, 6 and 8 inch.

Send for Catalogue.

Spring Keys, Spring Cotters,

— AND —

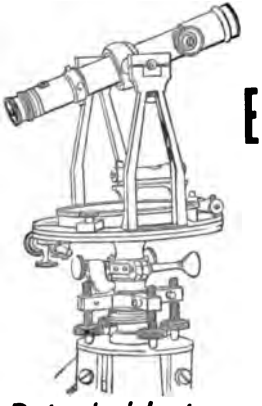
FLAT SPRING KEYS.

Complete stocks kept at AKRON, OHIO, for the trade in *Ohio* and the *West;* at SYRACUSE, N. Y., for the *Middle States* and *Canada;* and at BOSTON, MASS., for *New England.* Catalogues and prices furnished on application.

THE WHITMAN & BARNES MFG. CO.

AKRON, Ohio; SYRACUSE, N. Y.; BOSTON, Mass.; CANTON, Ohio; ST. CATHARINES, Ontario.

ESTABLISHED 1820.



YOUNG & SONS,

Engineering Instruments,

AND

RAILWAY STATIONERY,

43 N. 7th St.,

PHILADELPHIA, - PA.

Patented Improvements in Transits, Levels, &c.

THE ONLY ESTABLISHMENT IN THE COUNTRY CAPABLE OF SECURING ACCURACY OF GRADUATIONS.

FIELD BOOKS, PROFILE PAPERS, DRAUGHTING INSTRUMENTS,

TAPES, CHAINS, ETC.

CAROLINA CENTRAL—Gauge, 4-8½. Miles operated, 242. No. of locomotives, 28; passenger cars, 19; freight and miscellaneous cars, 410.
President—John M. Robinson, Baltimore, Md.
General Manager and Purchasing Agent—John C. Winder, Raleigh, N. C.
Superintendent—L. C. Jones, Wilmington, N. C.
Secretary—John H. Sharp, Wilmington.
Treasurer—Jas. Anderson, Wilmington.
Auditor—A. J. Howell, Wilmington.
General Passenger, Ticket, Baggage and Freight Agent—F. W. Clark, Wilmington.
Master Mechanic—Jas. Maglenn, Laurinburg, N. C.
Foreman of Locomotive Repairs—T. L. Shaw, Laurinburg.
Master Car Builder—S. R. Etheredge, Laurinburg.
Master Car Painter—G. W. Goodwin, Laurinburg.
Roadmasters—W. B. Summersett, Shoe Heel, N. C.; T. W. Whisnant, Charlotte, N. C.

CAROLINA, CUMBERLAND GAP & CHICAGO—Gauge, 5.
President, General Manager and Superintendent—Johnson Hagood, Barnwell, S. C.
Vice President—R. E. Bowen, Briggs P. O., S. C.
Chief Engineer—W. J. Kirk, Aiken, S. C.
Treasurer—J. Aldrich, Aiken, S. C.
Secretary and Auditor—G. S Campbell, Aiken, S. C.

CARSON & COLORADO—Gauge, 3. Miles operated, 293. No. of locomotives, 8; passenger cars, 6; freight and miscellaneus cars, 196.
President and General Superintendent—H. M. Yerington, Carson City, Nev.
Vice President—D. L. Bliss, Carson City, Nev.
Assistant General Superintendent—R. J. Laws, Hawthorne, Nev.
Chief Engineer—James Oliver, Carson City, Nev.
Secretary, and General Passenger, Ticket and Freight Agent—D. A. Bender, Carson City, Nev.
Treasurer—S. P. Smith, San Francisco, Cal.
Auditor—R. H. Wright, Carson City, Nev.
Purchasing Agent—Hume Yerington, Carson City, Nev.
Master Mechanic—I. N. Fording, Carson City, Nev.
Master Car Builder—M. M. Hyde, Carson City, Nev.
Master Car Painter—D. R. Culp, Carson City, Nev.
Roadmaster—J. W. Haynie, Hawthorne, Nev.

CATASAUQUA & FOGELSVILLE—Gauge, 4-8½. Miles operated, 25. No. of locomotives, 6; passenger cars, 3; freight and miscellaneous cars, 300.
President—George T. Barns, Philadelphia, Pa.
General Superintendent, Chief Engineer and Purchasing Agent—C. W. Chapman, Catasauqua, Pa.
Treasurer and General Ticket Agent—John Williams, Catasauqua, Pa.
General Freight Agent—R. E. Williams, Catasauqua, Pa.
Master Mechanic—John Thomas, Catasauqua, Pa.
Foreman of Locomotive Repairs—Thomas Jones, Catasauqua, Pa.
Roadmaster—Tilghman Fenstermaker, Catasauqua, Pa.

CATSKILL MOUNTAIN—Gauge, 3. Miles operated, 16. No. of locomotives, 2; passeng-r cars, 10; freight and miscellaneous cars, 16.
President—Charles L. Beach, Catskill, N. Y.
Vice President—Isaac Pruyn, Catskill, N. Y.
General Superintendent and Passenger Agent—Chas. A. Beach, Catskill, N. Y.
Secretary—Samuel L. Penfield, Catskill, N. Y.
Treasurer—Orrin Day, Catskill, N. Y.
Master Mechanic—John L. Driscoll, Catskill, N. Y.

CENTRAL AMERICAN & PACIFIC—Gauge, 3. Miles completed and under construction, 67. No. of locomotives, 1; cars, 11.
President—Daniel Butterfield, Mills Building, New York.
Vice President—R. T. Colburn, Elizabeth, N. J.
Treasurer—I. E. Gates, Elizabeth, N. J.
Secretary—John Hodges, Westfield, N. J.
General Superintendent and Chief Engineer—W. C. Fitzsimmons, Escuintla, Guatemala.

CENTRAL IOWA—Gauge, 4-8½. Miles operated, 517. No. of locomotives, 52; passenger cars, 32; freight and miscellaneous cars, 1,500.
Vice President—Russell Sage, 71 Broadway, New York.
Superintendent—E. L. Dudley, Marshalltown, Iowa.
Acting Chief Engineer—George A. Pruden, Marshalltown, Iowa.
Secretary and Fuel Agent—J. Howard Pearson, Marshalltown, Iowa.
Treasurer—Seth Zug, Marshalltown, Iowa.
Auditor—M. C. Healion, Marshalltown, Iowa.
General Passenger and Ticket Agent—R. S. McMurray, Marshalltown, Iowa.
General Freight Agent—H. L Shute, Marshalltown, Iowa.
Assistant Purchasing Agent—W. R. Coppock, Marshalltown, Iowa.
Master Mechanic—John Player, Marshalltown, Iowa.
Master Car Builder—T. L. Seevers, Marshalltown, Iowa.
Master Car Painter—F. J. Bates, Marshalltown, Iowa.

Assistant Superintendents—D. P. Phelps, Monmouth, Ill.; J. G. Johnston, Marshalltown, Iowa.
Roadmasters—Mat. Bolan, Ackley, Iowa; R. J. Malone, Marshalltown, Iowa; M. A. Stafford, Brighton, Iowa.

CENTRAL MASSACHUSETTS—Gauge, 4-8½. Miles operated, ——
President—Samuel N. Aldrich, Boston, Mass.
Secretary and Treasurer—George F. Seymour, Boston, Mass.
(No operating staff. Road being re-organized).

CENTRAL ONTARIO—Gauge, 4-8½. Miles operated, 32. No. of locomotives, 4; passenger cars, 7; freight and miscellaneous cars, 59.
President—S. J. Ritchie, Akron, O.
General Manager—G. W. McMullen, Picton, Ont.
Secretary and Treasurer—H. C. McMullen, Picton, Ont.
Master Mechanic—James Falconer, Trenton, Ont.

CENTRAL PACIFIC (AND LEASED LINES)—Gauge, 4-8½. Miles operated, 3,003.48. No. of locomotives, 428; passenger cars, 437; freight and miscellaneous cars, 9,327.
President—Leland Stanford, San Francisco, Cal.
Vice President and General Agent—C. P. Huntington, New York city.
Second Vice President—Chas. Crocker, San Francisco.
General Manager—A. N. Towne, San Francisco.
General Superintendent—J. A. Filmore, San Francisco.
Assistant General Superintendent—R. H. Pratt, San Francisco.
Assistant Superintendent—George Crocker, San Francisco.
Chief Engineer—Wm. Hood, San Francisco.
Assistant Chief Engineer—W. D. Gillette, San Francisco.
Secretary—E. H. Miller, Jr., San Francisco.
Treasurer—Timothy Hopkins, San Francisco.
General Auditor—Wm. H. Porter, San Francisco.
Traffic Manager—J. C. Stubbs, San Francisco.
Master of Transportation—E. M. Railton, San Francisco.
General Passenger and Ticket Agent—T. H. Goodman, San Francisco.
General Baggage Agent—O. C. Wheeler, San Francisco.
General Freight Agent—Richard Gray, San Francisco.
General Purchasing Agent—J. R. Watson, San Francisco.
General Master Mechanic—A. J. Stevens, Sacramento, Cal.
Assistant Master Mechanic—Wm. McKenzie, Sacramento, Cal.
Division Master Mechanics—Geo. D. Welch, Oakland, Cal.; M. W. Cooley, Rocklin, Cal.; Geo. Gregg, Wadsworth, Nev.; Wm. F. Smith, Carlin, Nev.; James Lamb, Terrace, U. T.; Seymour Johnson, Tulare, Cal.; James Velsir, Los Angeles, Cal.; W. F. Smith, Tucson, Ari.; John Bonner, El Paso, Tex.; D. Rutherford, Vallejo, Cal.
Master Car Builder—Benj. Welch, Sacramento, Cal.
Assistant Master Car Builder—G. J. Turner, Sacramento, Cal.
Foremen of Car Repairs—W. B. Ludlow, Oakland, Cal.; J. C. Shaw, Sacramento, Cal.; Phil Douglass, Sacramento, Cal.; G. E. Lane, Truckee, Cal.; Wm. McPherson, Wadsworth, Nev.; J. C. Doughty, Carlin, Nev.; A. Sherburne, Ogden, Utah; Charles Gill, Reading, Cal.; T. T. Gilliland, Los Angeles, Cal.; J. Follansbee, Tucson, Ari.; H. C. Standish, El Paso, Tex.; E. R. Rutherford, San Francisco, Cal.
Foreman Car Painters—W. C. Fitch, Sacramento, Cal.
Division Superintendents—A. D. Wilder, Oakland Pier, Cal.; J. B. Wright, Sacramento, Cal.; J. H. Whited, Wadsworth, Nev.; G. W. Coddington, Carlin, Nev.; A. C. Fell, Ogden, U. T.
Assistant Division Superintendents—J. A. Muir, Sacramento, Cal.; W. W Prugh, Tulare, Cal.; C. B. Seymore, The Needles, Cal.; E. E. Hewitt, Los Angeles, Cal.; A. A. Bean, Tucson, A. T.; James Campbell, El Paso, Tex.; R. L. Myrick, Stockton, Cal.
Superintendent of Track—W. G. Curtis, Oakland, Cal.
Roadmasters—T. J. Flanagan, West Oakland, Cal.; Thos. Fitzgerald, Carlin, Nev.; W. C. Ambrose, Tulare, Cal.; W. T. Lambie, Los Angeles, Cal.; R. L. Myrick, Stockton, Cal.; A. D. McWade, West Oakland, Cal.; J. J. Tracey, Lathrop, Cal.; A. L. Rabe, Blue Canon, Cal.; M. Sullivan, Truckee, Cal.; James Griffin, Humboldt, Nev.; Hugh Moy, Winnemucca, Nev.; W. M. Patterson, Wells, Nev.; A. G. Hart, Promontory, Utah.; John Mullen, Suisun, Cal.; E. Browning, Maxwell, Cal.; George Holland, Marysville, Cal.; M. F. Mullen, Merced, Cal.; Robert Hamill, Tulare, Cal.; H. F. Quinn, Daggett, Cal.; T. P. Sullivan, Fenner, Cal.; O. T. Cassin, Keene, Cal.; N. A. McDonald, Los Angeles, Cal.; E. J. Mulvihill, San Gorgonio, Cal.; C. K. Lambie, Yuma, A. T.; George A. Fayle, Maricopa, A. T.; S. R. McFarland, Benson, A. T.; C. E. Stephens, Deming, N. M.
Superintendent Bridges and Buildings—Arthur Brown, Oakland, Cal.

CENTRAL RAILROAD & BANKING COMPANY OF GEORGIA—Gauge, 5. Miles operated, 385. No. of locomotives, 80; passenger cars, 64; freight and miscellaneous cars, 2,075.
President—W. G. Raoul, Savannah, Ga.
General Superintendent—William Rogers, Savannah.
Chief Engineer—R. T. Macdonald, Savannah.
Treasurer—Edward McIntyre, Savannah.
Auditor—F. H. Thomson, Savannah.

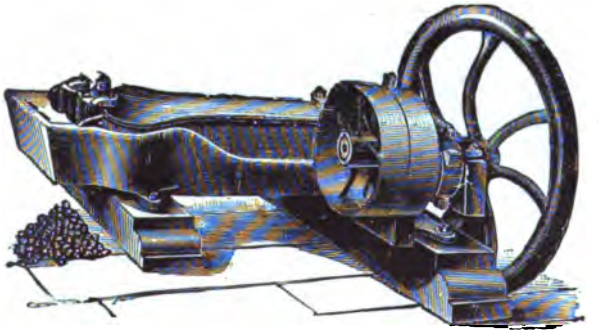
Traffic Manager—W. F. Shellman, Savannah.
General Passenger and Freight Agent—G. A. Whitehead, Savannah.
Purchasing Agent—C. H. Carson, Savannah.
Master Mechanic—D. D. Arden, Savannah.
Division Master Mechanics—D. M. Gugel, Macon, Ga.; T. F. Warwick, Augusta, Ga.
Master Car Builders—Frank Devine, Savannah; J. A Knight, Macon, Ga.
Roadmaster—W. M. Stevens, Macon, Ga.
Supervisors—M. C. Tarver, Marlow, Ga.; H. J. Ivey, Tennille, Ga.: J. B. Stevens, Gordon Ga.; J. Esters, Milner, Ga.

CENTRAL OF SOUTH CAROLINA—Miles operated, 40. No. of locomotives, 2; passenger cars, 3; freight and miscellaneous cars, 55.
President and General Manager—R. R. Bridgers, Wilmington. N. C.
General Superintendent—John F. Divine, Wilmington, N. C.
Assistant Superintendent—W. N. Royall, Charleston, S. C.
Engineer—B. R. Dunne, Wilmington, N. C.
Treasurer—J. W. Thompson, Wilmington, N. C.
Auditor—W. A. Riach, Wilmington, N. C.
Traffic Manager—Sol. Haas, Richmond, Va.
General Passenger, Ticket, Baggage and Freight Agent—T. M. Emerson, Wilmington, N. C.
General Agent—R. A. Brand, Sumter, S. C.
Master Mechanic—John Bissett, Wilmington, N. C.
Foreman of Locomotive Repairs—T. Bissett, Florence, S. C.
Master Car Builder—W. H. Day, Florence, S. C.
Roadmaster—G. B. Newcomb, Florence, S. C.

CENTRAL VERMONT—521 miles, gauge, 4-8½; 38 miles, gauge, 3. No. of locomotives, 105; passenger cars, 104; freight and miscellaneous cars, 2,185.
President—Hon. J. Gregory Smith, St. Albans, Vt.
Vice President—James R. Langdon, Montpelier, Vt.
General Superintendent—J. W. Hobart, St. Albans, Vt.
Assistant General Superintendent and Master Mechanic—J. M. Foss, St. Albans, Vt.
Chief Engineer—W. E. Babbitt, St. Albans, Vt.
Secretary—Hon. Geo. Nichols, Northfield, Vt.
Treasurer—D. D. Ranlett, St. Albans, Vt.
Auditor—E. G. Lucas, St. Albans, Vt.
General Passenger Agent—S. A. Cummings, St. Albans, Vt.
General Freight Agent—Col. C. A. Chittenden, St. Albans, Vt.
Fuel Agent—N. F. Clark, St. Albans, Vt.
Division Master Mechanic—I. W. Dow, New London, Conn.
Master Car Builders—S. S. Beeman, — Cannon, St. Albans, Vt.; N. C. Davis, Rutland, Vt.; S. O. Banks, New London, Conn.
Master Car Painter—Chas. A. French, St. Albans, Vt.
Division Superintendents—J. Burdett, Rutland, Vt.; I. B. Futvoye, St. Johns, P. Q.; E. F. Brooks, Brattleboro, Vt.; C. F. Spaulding, New London, Conn.
Superintendent of Buildings—L. J. Swett, St. Albans, Vt.
Superintendent of Bridges—C. H. Clark, St. Albans, Vt.
Roadmasters—Wm. Hatch, St. Albans, Vt.; A. C. Bean, W. R. Junction, Vt.; E. W. Horner, Rutland, Vt.

CHAGRIN FALLS & SOUTHERN—Gauge, 3. Miles operated, 5. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 10.
President—I. W. Pope, Chagrin Falls, O.
Vice President—A. B. Gardner, Chagrin Falls, O.
General Manager, Superintendent and Purchasing Agent—Wm. Hutchings, Chagrin Falls, O.
Assistant General Manager, Passenger, Ticket and Freight Agent—J. W. Williams, Chagrin Falls, O.
Secretary—A. C. Williams, Chagrin Falls, O.
Treasurer—J. Stoneman, Chagrin Falls, O.
Foreman of Car Repairs—Henry Church, Chagrin Falls, O.

CHARLESTON & SAVANNAH—Gauge, 5 feet. Miles owned, 101; rented, 14. No. of locomotives, 17; passenger cars owned, 9; rented, 11; freight and miscellaneous cars owned, 71; rented, 86.
President—H. B. Plant, New York.
General Manager—H. S. Haines, Savannah, Ga.
General Superintendent—C. S. Gadsden, Charleston, S. C.
Chief Engineer—F. S. Prendergast, Savannah, Ga.
Secretary B. F. Newcomer, Baltimore, Md.
Treasurer—J. M. Lee, Charleston, S. C.
Auditor and Purchasing Agent—E. P. McSwiney, Charleston, S. C.
General Passenger, Ticket, Baggage and Freight Agent—S. C. Boylston, Charleston, S. C.
Master Mechanic and Car Builder—H. A. Ulmo, Savannah, Ga.
Foremen Locomotive Repairs—H. W. Ulmo, Savannah, Ga.; P. E. Myers, Charleston, S. C.
Master of Transportation and Roadmaster—J. W. Craig, Charleston, S. C.
Supervisors—G. S. Fanning, Ravenel, S. C.; R. F. Austin, Ridgeland, S. C.



FORSTER'S ROCK BREAKER.

Very Simple and Very Durable.

CRUSHES MORE RAILROAD BALLAST

With Less Power than any other Crusher.

SOLD ON 30 DAYS' TRIAL.

The only Crusher that can be operated by Horse Power. The most ordinary laborer can manage it. Address

TOTTEN & CO.,

— ONLY MAKERS. —

ROLLING MILL MACHINERY FOUNDRY,

PITTSBURGH, PA.

CAR BUILDERS' MACHINERY.

Machines to Form Arch Bars for Truck Sides,

Six-Spindle Gang Boring Machines,

The Justice Spring Power Hammers,

STAPLE BENDING MACHINES

That will not injure threads and bend forty per minute.

Drop Presses, Punching Presses.

THREE SILVER MEDALS AT THE CINCINNATI EXPOSITION OF 1883.

☞ Correspondence solicited. ☜

WILLIAMS, WHITE & CO., Moline, Ill.

TUDOR IRON WORKS,

MANUFACTURERS OF

Rail Fastenings.

LIGHT RAILS.

ST. LOUIS BOLT & IRON WORKS,

— PROPRIETORS, —

ST. LOUIS, - - - - MO.

CHARLOTTE, COLUMBIA & AUGUSTA—(Atlantic, Tennessee & Ohio, 5 feet gauge; Chester & Lenoir, narrow gauge, 3 feet; Cheraw & Chester, narrow gauge, 3 feet, leased lines.) Gauge, 235 miles 5 feet, 120 miles 3 feet. Total miles operated, 355. No. of locomotives, 26; passenger cars, 33; freight and miscellaneous cars, 289.
President—A. C. Haskell, Columbia, S. C.
Vice President and General Manager—A. L. Rives, Richmond, Va.
Superintendent—G. R. Talcott, Columbia, S. C.
Assistant Engineer—Thos. Bernard, Columbia, S. C.
Secretary—C. Bonknight, Columbia, S. C.
Treasurer—J. C. B. Smith, Columbia, S. C.
Auditor—John Craig, Columbia, S. C.
Traffic Manager—Sol. Haas, Richmond, Va.
General Passenger Agent—M. Slaughter, Richmond, Va.
Assistant General Freight and Passenger Agent—D. Cardwell, Columbia, S. C.
General Freight Agent—J. H. Drake, Richmond, Va.
General Baggage Agent—J. H. Hill, Richmond, Va.
Purchasing Agent—J. P. Minetree, Richmond, Va.
Wood and Cross-tie Inspector—W. W Holliday, Columbia, S. C.
Master Mechanic—J. H. Green, Columbia, S. C.
Roadmasters—C. Warren, C., C. & A., Chester, S. C.; S. T. Blanton, C., C. & A., Batesburg, S. C.; S. E. Wooten, narrow gauge roads, Yorkville, S. C.; J. H. Kirkman, A. T. & O. Div., Troutmans, N. C.

CHATEAQUGAY—Gauge, 3. Miles operated, 34. No. of locomotives, 6; passenger cars, 4; freight and miscellaneous cars, 352.
President—Hon. Smith M. Weed, Plattsburgh, N. Y.
General Manager and Purchasing Agent—A. L. Inman, Plattsburgh, N. Y.
Assistant General Manager—Edward Hall, Rogersfield, N. Y.
General Superintendent, Chief Engineer and Master Mechanic—J. M. Davies, Rogersfield, N. Y.
Assistant General Superintendent—M. L. French, Plattsburgh, N. Y.
Secretary—H. M. Olmsted, 21 Cortlandt street, New York.
Treasurer—Hon. A. Williams, Plattsburgh, N. Y.
Auditor—Talbot Olyphant, 21 Cortlandt st., New York.
General Ticket Agent—M. F. Parkhurst, Plattsburgh, N. Y.
Roadmaster—S. A. McMartin, Rogersfield, N. Y.

CHATHAM—Gauge, 4-8½. Miles operated, 9. No. locomotives, 2; passenger cars, 2.
President—Alex. Morrison, Chatham, N. B.
General Manager and Purchasing Agent—J. B. Snowball, Chatham, N. B.
Chief Engineer, Superintendent Motive Power and Machinery—A. Alcorn, Chatham, N. B.
Secretary—W. B. Snowball, Chatham, N. B.
Traffic Manager, General Passenger, Ticket, Baggage and Freight Agent—P. Turner, Chatham, N. B.
Master Mechanic—Geo. Logan, Chatham, N. B
Foreman of Car Repairs—J. McLachlan, Chatham, N. B.
Roadmaster—John Hawkes, Chatham, N. B.

CHATTAROI—Gauge, 4-8½. Miles operated. 50. No. of locomotives, 6; passenger cars, 4; freight and miscellaneous cars, 200
President—Geo. T. Stedman, Cincinnati, O.
Vice President—Geo. S. Richardson, Ashland, Ky.
General Manager, Passenger, Freight and Purchasing Agent—Chas. H. Rockwell, Ashland, Ky.
Secretary and Treasurer—Geo. W. Carlisle, Cincinnati.
Auditor—H. B. Butler, Ashland, Ky.
Superintendent Motive Power and Machinery—Jas. R. Martin, Ashland, Ky.
Master Car Builder—Jos. P. Burleigh, Ashland, Ky.
Roadmaster—Robert Marks, Ashland, Ky.

CHERAW & DARLINGTON AND CHERAW & SALISBURY—Gauge, 5. Miles operated, 65. (See Northeastern of South Carolina).

CHESAPEAKE & OHIO—Gauge, 4-9. Miles operated, 643.14. Locomotives, 169; passenger cars, 46; freight and miscellaneous cars, 5,187.
President—C. P. Huntington, 23 Broad st., N. Y.
Vice Presidents—First, A. S. Hatch, 5 Nassau st., New York; Second, Wm. C. Wickham, Richmond, Va.
General Manager—C. W. Smith, Richmond, Va.
Assistant to General Manager—Don A. Sweet, Richmond, Va.
Superintendent of Transportation—C. H. Hudson, Richmond, Va.
Division Engineers—Eastern Division, J. J. Lyell, Richmond, Va.; Lexington Division, D. W. Lum, Lexington, Ky.
General Freight Agent—B. S. Fitch, Richmond, Va.
General Passenger and Ticket Agent—H. W. Fuller, Richmond, Va
Secretary and Treasurer—E. T. Tournier, 23 Broad st., New York.
Cashier—John Garrett, Richmond, Va.
Auditor of Revenue—R. H. Fisher, Richmond, Va.
Auditor of Disbursements—W. H. Lowry, Richmond, Va.
Purchasing Agent—A. S. Emmons, Richmond, Va.

COMFORT AND ECONOMY.

Mason's Patent Improved Car Seat,

THE PENNSYLVANIA.

No Breaking by Reversing Rapidly.

Hundreds of Coaches seated with this Car seat.

Is the Penna. R. R Standard seat, and used extensively by the Lehigh Valley; C., B. & Quincy; N. Y., West Shore & Buffalo; North Pac.; N. Y., L. E. & W; N. Y., Chi. & St. L.; Sav., Flor. & West., and many other railroads. It meets the long needed want of a reversible seat that elevates the cushion in front, and also makes it wider. Without hinges, cams, or any other mechanical appliance. Works automatically. Address

C. C. MASON,

Lock-Box 144. ALTOONA, PA.

N. B.—All parties infringing on this patent will be prosecuted.

PARDEE CAR AND MACHINE WORKS

WATSONTOWN, PA.

Iron Frame Derrick AND Wrecking Cars

TURN TABLES and all kinds of

FREIGHT, LOGGING, MINE AND HAND CARS.

PARDEE, SNYDER & CO., (Limited) Props.

The "Swift" Automatic Lubricator.

A PERFECT MACHINE FOR THE INTERNAL LUBRICATION OF THE

It will feed any ordinary Lubricant from the lightest oils to the HARDEST TALLOW IN THE COLDEST WEATHER.

This device delivers any desired quantity to each cylinder POSITIVELY, and its feed-rate remains unchanged with the Engine at FULL STROKE, THROTTLED or REVERSED.

LOCOMOTIVE,

MARINE AND STATIONARY ENGINES.

THE "SWIFT" AUTOMATIC LUBRICATOR CO.,

Correspondence solicited. **ELMIRA, N. Y.**

FAIRBANKS, MORSE & CO.

Railway Supply Department.

At the National Exposition of Railway Appliances, the various juries in different classes, endorsed our advertised claims of "EXCLUSIVELY FIRST-QUALITY GOODS IN ALL DEPARTMENTS," by awarding us on the Railway goods,

TWELVE FIRST PREMIUMS,

AS FOLLOWS:

FOR BEST RAILROAD TRACK SCALE,	1st Premium, Gold Medal.
FOR BEST RAILROAD PLATFORM SCALE,	1st Premium, Silver Medal.
FOR BEST MACHINE FOR TESTING STRENGTH OF METALS,	1st Premium, Gold Medal.
FOR BEST STEAM PUMP, "SMITH-VAILE,"	1st Premium, Gold Medal.
FOR BEST HAND PUMP FOR WATER STATION,	1st Premium, Bronze Medal.
FOR BEST WIND MILL, "ECLIPSE,"	1st Premium, Silver Medal.
FOR BEST STAND PIPE,	1st Premium, Silver Medal.
FOR BEST HAND CAR,	1st Premium, Silver Medal.
FOR BEST SECTION, OR PUSH CAR,	1st Premium, Silver Medal.
FOR BEST SWITCH STAND,	1st Premium, Bronze Medal.
FOR BEST FREIGHT, OR WAREHOUSE TRUCK,	1st Premium, Bronze Medal.
FOR BEST LETTER PRESSES,	1st Premium, Bronze Medal.

With unequaled facilities in all departments, we are prepared to furnish these goods, of superior quality, at such prices as render them the most economical to all discriminating purchasers.

(OVER.)

FAIRBANKS, MORSE & CO.,

Corner Lake Street and Fifth Avenue, Chicago.

Exclusively First Quality Goods!

FAIRBANKS' STANDARD SCALES.—The only reliable Railroad Scale. Over 600 modifications. Awarded two first premiums at National Railway Exposition. Accurate and Durable. Many new patterns.

TRUCKS AND BAGGAGE BARROWS.—Made of selected material. Special styles furnished promptly. The largest manufactory in the United States, enabling us to furnish at lower prices than any railroad can manufacture.

WIND MILLS. The "Eclipse," solid wheel, self-regulating. The most economical motor where wind is available. Furnished with complete building plans, or erected when desired.

WATER STATIONS.—Material and plans furnished, or erected complete. Have completed several of the largest contracts ever made Experienced engineers and construction foremen.

TANKS. Staves and bottoms with sawed joint. Chime cut by machine. Having the largest manufactory in the United States, we can furnish all sizes promptly and more economically than any road can construct.

PUMPS FOR WINDMILLS.—"Eclipse," double-acting—rubber valves. All parts readily accessible. Extra strong. Gives perfect satisfaction wherever used.

TANK FIXTURES.—Babbitt metal valve seat—rubber valve face. Drains quickly. Valve will not rebound. Heavy galvanized iron discharge pipe.

WOOD PIPE.—A great saving in both first cost and expense of laying. Tested to 160 lbs. pressure to square inch. Less liable than iron to freeze or burst. Over 100 miles laid in 1883. Satisfactory references furnished.

STEAM PUMPS.—Smith-Vaile. First premium at National Railway Exposition. For water stations, deep wells, artesian wells, fire and other purposes. With removable water cylinder and other improvements

BOILERS.—With submerged flues, not liable to leak or need repairs. Recommended at National Railway Exposition as the most suitable for railway pumping stations. Special styles to order.

STAND PIPES:—Smith's patent. First premium awarded at National Railway Exposition. Perfectly anti-freezing. Easily handled. Will deliver more water than any other style.

HAND CARS.—Wood wheel and other patented improvements. Adopted for economical reasons wherever tried. Lightest, strongest, fastest, most easy-running. Sent on trial.

PUSH CARS.—With patent wood wheels and other improvements. Labor-saving because lightest and strongest. Special styles furnished where desired.

VELOCIPEDES.—Sheffield improved. Four styles. For one or two men. Sample orders solicited.

INSPIRATORS.—Hancock improved. Operated by one handle. No steam or water in the cab. Reliable for feeding boiler when in motion or at rest.

AIR-BRAKE AUTOMATIC OILER.—Greatest economy in oil. Will not freeze. Positive in work. No valves to leak. Most easily attached and regulated.

JACKS.—Joyce's Lever, Compound Lever and Screw Jacks. Large variety, adapted to all uses. Simple, durable, powerful and safe.

SWITCH STANDS.—"Eclipse." Awarded first premium at National Railway Exposition. Simple, practical and substantial. A trial solicited.

LETTER PRESSES.—All sizes, with wheel or lever. Way-Bill Presses, Stands, etc. Awarded the first premium at National Railway Exposition.

MILLER LOCKS.—For switches, freight cars, tool houses, etc. Special combination with six tumblers to each road. Master-keyed Locks, and other special styles.

CAR SEALS.—Foote's Sealing Tool, for sealing, cutting and extracting. Five modifications, adapted to use with tin seals or with wire and lead seals.

(OVER.)

General Baggage Agent—Chas. Lorraine, Richmond, Va.
Fuel Agent—T. W. Hopkins, Richmond, Va.
Superintendent of Motive Power—T. L. Chapman, Richmond, Va.
Master Car Builder—J. N. King, Richmond, Va
Master Car Painters—J. F. Smith, Huntington, W. Va.; Thos. Byrne, Richmond, Va.
Superintendents—Eastern Division, A. H. Wood, Richmond, Va.; Huntington Division, W. B. Ryder, Hinton, W. Va.; Lexington Division, J. D. Yarrington, Lexington, Ky.

CHESAPEAKE, OHIO & SOUTHWESTERN—Gauge, 4.9. Miles operated, 398; No. of locomotives, 62; passenger cars, 20 coaches and 7 baggage; freight and miscellaneous cars, about 1,500.
President—C. P. Huntington, New York.
Vice President—John Echols, Louisville, Ky.
General Superintendent—D. W. C. Brown, Louisville, Ky.
Superintendent of Roadway, Bridges and Building—James L. Frazier, Louisville, Ky.
Secretary and Treasurer—I. E. Gates, New York.
Auditor—J. W. Baird, Louisville, Ky.
General Passenger, Ticket, Baggage and Freight Agent—B. F. Mitchell, Louisville, Ky.
Purchasing Agent—H. E. Huntington, Louisville.
Fuel Agent—W. H. Fenton, Elizabethtown, Ky.
Supt. Motive Power and Machinery—R. H. Briggs, Elizabethtown, Ky.
Superintendents of Transportation—J. E. Reeves, Louisville; J. W. Scott, Cecelia, Ky.; J. R. Burch, Paducah, Ky.; J. M. Abbott, Fulton, Ky.; S. Carlin, Covington, Tenn.

CHESHIRE: AND MONADNOCK (Leased)—Gauge, 4-8½. Miles operated, 80; No. of locomotives, 31; passenger cars, 34; freight and miscellaneous cars, 488.
President—Hon. Wm. A. Russell, Lawrence, Mass.
Vice President—E. C. Thayer, Keene, N. H.
General Manager—R. Stewart, Keene, N. H.
Treasurer and General Ticket Agent—F. H. Kingsbury, Keene.
General Baggage Agent—George A. Brown, Keene.
General Freight Agent—J. W. Dodge, Keene.
Purchasing Agent—H. H. Stone, Keene.
Fuel Agent and Road Master—H. Hyland, Keene.
Master Mechanic—F. A. Perry, Keene.
Master Car Builder—A. E. Howard, Keene.

CHICAGO & ATLANTIC—Gauge, 4-8½. Miles operated, 269. No. of locomotives, 70; passenger cars, 275; freight and miscellaneous cars, 2,500.
President—H. J. Jewett, New York.
Assistant to President—Frederick Broughton, Chicago.
General Superintendent and Purchasing Agent—J. C. Williams, Chicago.
Engineer—S. H. Doty, Chicago.
Assistant Engineer—B. P. Griffith, Huntington, Ind.
Superintendent Telegraph—W. H. Brimson, Chicago.
Secretary—E. B. Guthrie, Chicago.
Treasurer—E. E. Willis, Chicago.
Auditor—Russell Elliott, Chicago.
General Passenger and Ticket Agent—S. W. Snow, Chicago.
General Freight Agent—A. Mackay, Chicago.
Master Mechanic—G. A. Hill, Huntington, Ind.
Division Superintendents—J. H. Parsons, Western Division, Chicago; J. H. Tinney, Eastern Division, Huntington, Ind.

CHICAGO & ALTON—Gauge, 4-8½. Miles operated, 849. No. of locomotives, 228; passenger cars, 115; freight and miscellaneous cars, 7,044.
President—T. B. Blackstone, Chicago, Ill.
Vice President—J. C. McMullin, Chicago.
General Manager—C. H. Chappell, Chicago.
Superintendent of Transportation—T. M. Bates, Bloomington, Ill.
Chief Engineer—K. F. Booth, Chicago.
Division Engineers—H. C. Draper, Chicago; T. H. Hubbard, Louisiana, Mo.
Secretary and Treasurer—C. H. Foster, Chicago.
Auditor—C. Kelsey, Chicago.
General Passenger and Ticket Agent—James Charlton, Chicago.
General Baggage Agent—C. Huntington, Chicago.
General Freight Agent—H. H. Courtright, Chicago.
Purchasing Agent—A. V. Hartwell, Chicago.
Fuel Agent—J. S. Conger, Chicago.
Superintendent Motive Power and Machinery—Wm. Wilson, Bloomington, Ill.
Division Master Mechanic—L. H. Miller, Slater, Mo.
Foremen of Locomotive Repairs—Geo. Gregg, Bloomington, Ill.; J. D. Johnson, Chicago; A. A. Van Horne, Joliet, Ill.; Ed. Schell, Bloomington, Ill.; —McIlroy, Alton, Ill.; A. L. Cooper, Venice, Ill.; Jos. Clough, Roodhouse, Ill.; M. J. Martin, Booth, Ill.; Geo. Green, Kansas City, Mo.
Foremen of Car Repairs—James Lonney, Bloomington, Ill.; A. Buchanan, Chicago; W. W. Buttolph, E. St. Louis, Ill.; Isaac Eldridge, Roodhouse, Ill.; M. Woodside, Booth, Ill.; A. M. Lain, Slater, Ill.; J. Townsend, Kansas City, Mo.

CAMBRIA STEEL RAILS,

Heavy Rails, Light Rails,

STREET RAILS

AND

Improved Rail Fastenings.

— ADDRESS —

CAMBRIA IRON COMPANY,

OFFICE:
218 South Fourth Street.
PHILADELPHIA, PA.

WORKS:
JOHNSTOWN,
PENNSYLVANIA.

Master Car Painter—N. A. Elmquist, Bloomington, Ill.
Division Superintendents—A. M. Richards, Bloomington, Ill.; S. D. Reeves, Roodhouse, Ill.
General Roadmaster—Wm. Riley, Bloomington, Ill.
Roadmasters—James Lumsden, Joliet, Ill.; Thos. White, Bloomington, Ill.; Wm. Huskinson, Alton, Ill.; Timothy Sullivan, Louisiana, Mo.; John Dacy, Slater, Mo.

CHICAGO & BLOCK COAL—(See Chicago & Great Southern.)

CHICAGO, BURLINGTON & KANSAS CITY—Gauge, 4-8½. Miles operated, 191; No. of locomotives, 9; passenger cars, 6; freight and miscellaneous cars, 192.
President—W. W. Baldwin, Burlington, Iowa.
Vice President and General Manager—T. J. Potter, Chicago, Ill.
General Superintendent—R. Law, Keokuk, Iowa.
Assistant Superintendent—C. M. Levey, Keokuk.
Secretary—T. S. Howland, Burlington, Iowa.
Assistant Treasurer and Auditor—Howard Elliott, Keokuk, Iowa.
General Ticket and Freight Agent—J. H. Best, Jr., Keokuk.
General Baggage Agent—M. B. Starring, Keokuk.
Purchasing Agent—William Irving, Chicago, Ill.
Superintendent Motive Power and Machinery—W. H. Bartlett, Keokuk.
Road Master—L. E. Atherton, Keokuk.
Superintendent Bridges and Buildings—S. F. Clapp, Keokuk.

CHICAGO, BURLINGTON & QUINCY—(The Burlington & Missouri River in Nebraska is separately reported.)—Gauge, 4-8½. Miles operated, 1,976 east of Missouri River. No. of locomotives, 448; passenger cars, 260; freight and miscellaneous cars, 15,139.
President—C. E. Perkins, Burlington, Iowa.
Second Vice President and Treasurer—J C. Peasley, Chicago, Ill.
Third Vice President and General Manager—T. J. Potter, Chicago, Ill.
Assistant General Manager—H. B. Stone, Chicago, Ill.
General Superintendent of Illinois Lines—J. D. Besler, Galesburg, Ill.
Asst. Superintendent—L. A. Howland, Chicago, Ill.
General Superintendent Lines in Iowa—W. F. Merrill, Burlington, Iowa.
Asst. Superintendent—O. E. Stewart, Burlington, Iowa.
Chief Engineer—G. C. Smith, Chicago.
Consulting Engineer—R. J. McClure, Chicago.
Division Engineers—P. J. Allen, Galesburg, Ill.; F. Lawlor, Burlington, Ia.
Secretary—H. W. Weiss, Chicago.
General Auditor—J. L. Lathrop, Chicago.
General Passenger Agent—Perceval Lowell, Chicago.
Asst. General Baggage Agent—M. B. Starring, Chicago.
General Freight Agent—E. P. Ripley, Chicago.
Purchasing Agent—Wm. Irving, Chicago.
Wood, Tie and Fuel Agent—D. Dorman, Burlington, Iowa.
Supt. Motive Power—G. W. Rhodes, Aurora, Ill.
Car Accountant—E. G. Squir , Chicago.
Division Master Mechanics—L. E. Johnson, Aurora, Ill.; Robert Colville, Galesburg, Ill.; A. Forsyth, Beardstown, Ill.; Joel West, Burlington, Iowa; C. W. Eckerson, Creston, Iowa.
Foreman of Car Shops—E. N. Benedict, Aurora, Ill.
Master Car Painters—J. H. Long, Aurora, Ill.; L. R. McCoy, Galesburg, Ill.
Division Superintendents—Geo. Alexander, Aurora, Ill.; F. C. Rice, Galesburg, Ill.; S. E. Crance, Beardstown, Ill.; O. E. Stewart, Burlington, Ia.; J. B. Maxon, Ottumwa, Iowa.; J. H. Duggan, Creston, Iowa.
Roadmasters—C. R. Meeker, Aurora, Ill.; John Sullivan, Galesburg, Ill.; W. B. Throop, Beardstown, Ill.; G. W. Fabens, Burlington, Ia.; G. Rose, Burlington, Ia.; James Neylon, Ottumwa, Ia.; D. Freel, Chariton, Ia.; J. Welch, Chariton, Ia.; J. Wiseman, Creston, Ia; M. Hogan, Red Oak, Ia.; C. L. Manholtz, Red Oak, Ia.

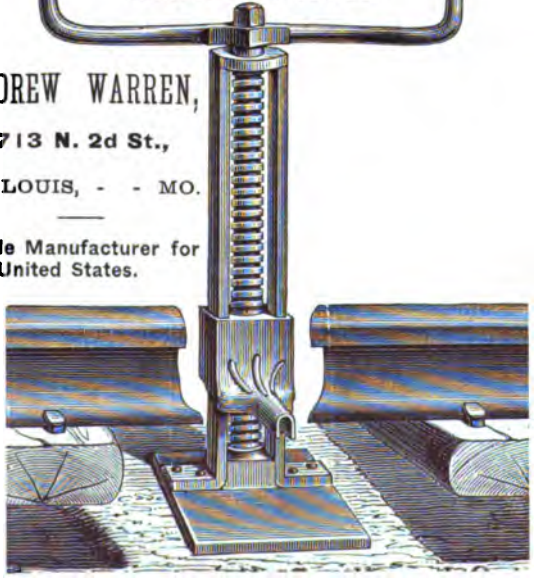
CHICAGO & EASTERN ILLINOIS—Gauge, 4-8½. Miles operated, 250; No. of locomotives, 56; passenger cars, 21; freight and miscellaneous cars, 3,940.
President—H. H. Stevens, Boston.
Vice President—George H. Ball, Worcester, Mass.
General Superintendent—O. S. Lyford, Chicago, Ill.
Master of Transportation—P. W. Drew, Chicago.
Chief Engineer—S. H. Miller, Danville, Ill.
Secretary—A. S. Dunham, Chicago.
Treasurer—J. C. Calhoun, Chicago.
Auditor—H. A. Rubidge, Chicago.
Traffic Manager—R. Forsyth, Chicago.
General Passenger, Ticket and Baggage Agent—William Hill, Chicago.
Purchasing Agent—D. R. Patterson, Chicago.
Supt. Motive Power and Machinery and Master Car Builder—Allen Cooke, Danville, Ill.
Master Car Painter—Frank Foat, Danville.
Road Master—James Sloan, Danville.

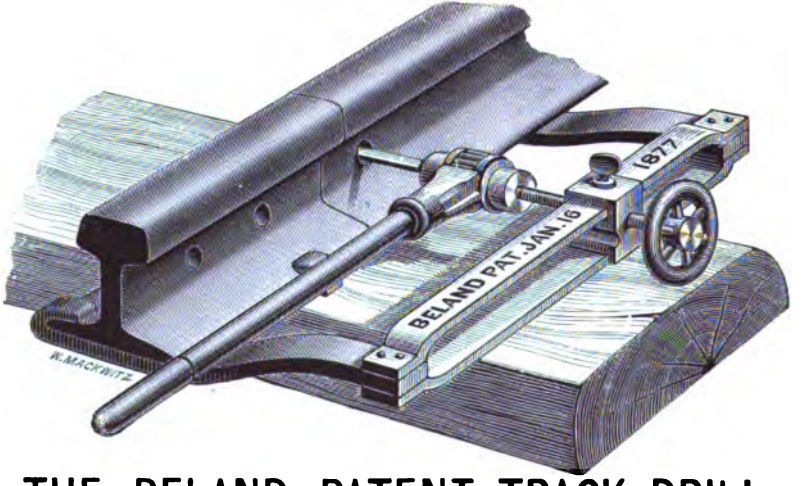
CHICAGO & GRAND TRUNK—Gauge, 4-8½. Miles operated, 335. No. of locomotives, 125; passenger cars, 35; freight and miscellaneous cars, 2,195.
President—Joseph Hickson, Montreal, P. Q.

THE STANDARD WROUGHT IRON
TRACK JACK.

ANDREW WARREN,
713 N. 2d St.,
ST. LOUIS, - - MO.

Sole Manufacturer for the United States.





THE BELAND PATENT TRACK DRILL.

Adjustable for boring all the holes for a joint without moving the Clamp.

BELAND TRACK DRILL CO.,
713 N. 2D STREET, ST. LOUIS,
Sole Manufacturers and Proprietors.

Vice President—L. J. Seargeant, Montreal, P. Q.
General Manager—S. R. Callaway, Chicago, Ill.
Superintendent—W. H. Pettibone, Battle Creek, Mich.
Chief Engineer—A. B. Atwater, Battle Creek, Mich.
Secretary, Treasurer and Auditor—Chas. Percy, Port Huron, Mich.
Traffic Manager, Passenger and Ticket Agent—Geo. B. Reeve, Chicago, Ill.
General Baggage Agent—J. E. Quick, Port Huron, Mich.
Purchasing Agent—A. Judd, Fort Gratiot, Mich.
Fuel Agent—C. R. Krum, Fort Gratiot, Mich.
Supt. Motive Power and Machinery—H. Roberts, Fort Gratiot, Mich.
Assistant Mechanical Superintendent—J. A. Slack, Battle Creek, Mich.
Master Car Builder—Thos. Sutherland, Port Huron, Mich.
Foreman of Car Repairs—Wm. Wanless, Port Huron, Mich.
Trainmasters—J. K. V. Agnew, Western Division, Chicago, Ill.; A. R. McIntyre, Eastern Division, Battle Creek, Mich.
Roadmasters—J. Harrigan, Flint, Mich.; T. W. Raynor, Battle Creek, Mich.; Wm. Segerdahl, Valparaiso, Ind.
Bridge Inspector—S. W. McGee, Battle Creek, Mich.

CHICAGO & GREAT SOUTHERN—Gauge, 4-8½. Miles operated, 80. No. of locomotives, 8; passenger cars, 6; freight and miscellaneous cars, 550.
President—Henry Crawford, Chicago.
General Superintendent and Purchasing Agent—H. Crawford, Jr., Chicago.
Chief Engineer—F. H. Peters, Chicago.
Secretary—F. F. Lacey, Chicago.
General Ticket and Freight Agent—F. D. Raymond, Chicago.
Master Mechanic—J. J. Curtis, Oxford, Ind.

CHICAGO & IOWA—Gauge, 4-8½. Miles operated, 105; No. of locomotives, 16; passengers cars, 6; freight and miscellaneous cars, 109.
President—F. H. Head, Chicago, Ill.
General Manager—T. J. Potter, Chicago.
General Superintendent and Freight Agent—W. H. Holcomb, Rochelle, Ill.
Secretary—L. O. Goddard, Chicago.
Treasurer—J. C. Peasley, Chicago.
Assistant Treasurer—C. F. Holcomb, Rochelle.
Auditor and General Ticket Agent—M. L. Ettinger, Rochelle.
General Baggage Agent—M. B. Starring, Chicago.
Purchasing Agent—William Irving, Chicago.
Master Mechanic—H. S. Bryan, Aurora, Ill.
Superintendent Track and Building—Robert Wakefield, Rochelle, Ill.

CHICAGO, IOWA & DAKOTA—Miles operated, 26.
General Manager—John Porter, Eldora, Ill.

CHICAGO, FAIRCHILD & EAU CLAIRE RIVER—Gauge, 4-8½. Miles operated, 20. (Under construction 20.) No. of locomotives, 4; passenger cars, 1; freight and miscellaneous cars, 23.
Proprietor and Manager—N. C. Foster, Fairchild, Wis.
Assistant Manager and Secretary—G. A. Foster, Fairchild, Wis.
Purchasing Agent—C. I. Wickersham, 107 Dearborn st., Chicago.

CHICAGO & WESTERN INDIANA.—THE BELT R. CO. OF CHICAGO.—(Both under same management). Gauge, 4'8½. No. of locomotives, 12; freight and miscellaneous cars, 156.
President—S. R. Callaway, Chicago.
General Manager—James Walsh, 94 Washington st., Chicago.
Chief Engineer—I. Randolph, Chicago.
Secretary and Auditor—A. S. Dunham, Chicago.
Treasurer—G. W. Stokes, Chicago.
General Baggage Agent—C. H. Gunn, Chicago.
Purchasing Agent—C. C. Nash, Chicago.
Master Mechanic—H. C. Washburn, Chicago.
Road Master—W. R. Beauprie, Chicago.

CHICAGO & WEST MICHIGAN—Gauge, 4-8½. Miles operated, 400. No. of locomotives, 47; passenger cars, 28; freight and miscellaneous cars, 1,560.
President—N. Thayer, Jr., Boston, Mass.
Vice President and General Manager—George C. Kimball, Muskegon, Mich.
General Superintendent—A. M. Nichols, Grand Rapids, Mich.
Chief Engineer—J. W. Petheram, Grand Rapids, Mich.
Secretary and Treasurer—Charles Merriam, Boston, Mass.
Auditor—U. B. Rogers, Muskegon, Mich.
Assistant Treasurer—C. L. Gunn, Muskegon, Mich.
Gen'l Passenger, Ticket and Freight Agent—I. H. Palmer, Grand Rapids, Mich.
General Baggage Agent—H. P. Dearing, Chicago.
Purchasing Agent—E. Hill, Muskegon, Mich.
Master Mechanic—W. F. N. Davis, Muskegon, Mich.
Division Superintendent—E. W. Bliss, Holland, Mich.
General Roadmaster—Thos. Murphy, Muskegon, Mich.

CHICAGO & NORTHWESTERN—Gauge, 4-8½. Miles operated, 5,117.28. No. of locomotives, 637; passenger cars, 437; freight and miscellaneous cars, 20,540.

MILLER, METCALF & PARKIN,

CRESCENT STEEL WORKS,

PITTSBURGH, - - - PA.,

MANUFACTURERS OF THE BEST GRADES OF

STEEL FOR RAILWAY TRACK TOOLS,

Cold Chisels, Punches, Dies, Lathe and Planer Tools, Etc.,

POLISHED, COMPRESSED DRILL RODS,

Up to 1 inch by 32nds for Stay-bolt and other Taps, Reamers, Twist Drills, Etc.

CRUCIBLE CAST SPRING STEEL OF SUPERIOR STRENGTH AND ELASTICITY,

Crescent Edge-rolled and Equal Bar Springs; Round and Flat Bar Nest Spiral Springs;
Round Machinery Steel for Hand-Car Axles; Frog Points and Plates,
Crank Pins, Piston Rods and Side Bars.

CHICAGO,
22 and 24 W. Lake St.

NEW YORK,
178 1-2 Water St.

PHILADELPHIA.
1232 Market St.

President—Albert Keep, Chicago.
Vice President—M. L. Sykes, 52 Wall st., New York.
Second Vice President and General Manager—Marvin Hughitt, Chicago,
General Superintendent—C. C. Wheeler, Chicago.
Assistant General Superintendents—W. B. Linsley, Chicago; S. Sanborn, Winona, Minn.
Chief Engineer—E. H. Johnson, Chicago.
Secretary—M. L. Sykes. 52 Wall st., New York.
Treasurer—S. O. Howe, 52 Wall st., Chicago.
Auditor—J B. Redfield, Chicago.
Freight Traffic Manager—H. C. Wicker, Chicago.
General Passenger Agent—W. H. Stennett, Chicago.
General Ticket Agent—W. A. Thrall, Chicago.
General Baggage Agent—N. A. Phillips, Chicago.
General Freight Agent—W. S. Mellen, Chicago.
Purchasing Agent—R. W. Hamer, Chicago.
Division Superintendents—Charles Murray, Edward J. Cuyler, Chicago; H. G. Burt, Boone, Iowa; C. A. Swineford, Baraboo, Wis.; W. P. Cosgrove, Winona, Minn.; W. F. Fitch, Escanaba, Mich.; J. S. Oliver, Huron, Dakota; M. Hopkins, Eagle Grove, Iowa.
Supt. Motive Power and Machinery—George W. Tilton. Chicago.
Division Master Mechanics—W. A. Scott, Winona, (Winona & St. Peter and Dakota Divisions); G. W. Lowe, Clinton, Iowa, Iowa & Northern Iowa Divisions; J. Symons, Escanaba, Peninsula Division; H. D. Page, Baraboo, Wis., Madison Division.
Assistant Superintendent Car Department—Wm. Campbell, Chicago.
Foreman of Car Repairs—W. B. White, Chicago.
Foreman of Car Painters—Wm. Amerson, Chicago.
Roadmasters—W. H. Barnes, Chicago, Ill.; C. K. Bannister, Chicago; Albert A. Hinman, Oshkosh, Wis.; Patrick Flynn, Fond du Lac, Wis.; Miles Crandall, Oak Park, Ill.; Ed. K. Kitel, assistant, Chicago; Theo. A. Allen, Sterling, Ill.; Wm. C. Halsey. Clinton, Iowa; Alva L. Mead, Belle Plaine, Iowa; Wm. D. Hodge, Boone. Iowa; Eugene O'Neill, Carroll, Iowa; W. D. Robinson, Dunlap, Iowa; I. A. Worcester, Ida Grove, Iowa; G. W. Quiggle, Jewell Juction, Iowa; Luke Flynn, Eagle Grove, Iowa; E. P. Edwards, Algona, Iowa; Charles E. Keys, Baraboo, Wis.; Geo. H. Stinson. Elroy, Wis.; Jas. Hallett, Madison, Wis.; John W. Wright, Madison, Wis.; Silas H. Brown, Montfort, Wis.; Orlin Reeve, Marinette, Wis.; James H. McDonald, Escanaba, Mich.; A. M. Sutherland, Florence, Wis.; P. H. Jacobs, Rochester, Minn.; John S. Burke, Waseca, Minn.; John Rummings, Sleepy Eye, Minn.; I. G. Bates, Brookings, Dakota; A. C. Morse, Huron, Dakota; Edward Moriarety, Redfield, Dakota; E. F. Potter, Huron, Dakota.

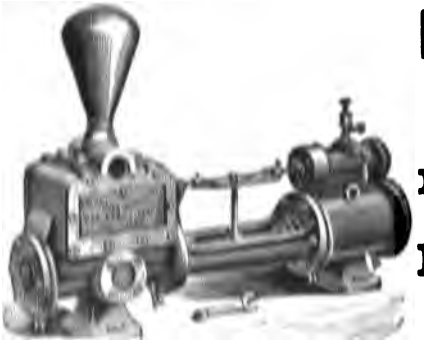
CHICAGO, ST. LOUIS & WESTERN—Gauge, 4-8½. Miles operated, 150. No. of locomotives, 17; passenger cars, 6; freight and miscellaneous cars, 1,809.
President—J. Irving Pearce, Chicago, Ill.
General Manager, Chief Engineer, Treasurer and Purchasing Agent—F. E. Hinckley, Chicago.
General Superintendent—A. H. Crocker, Streator, Ill.
Division Engineer—A. Comstock, Chicago.
Secretary, General Passenger and Ticket Agent—B. T. Lewis, Chicago.
Auditor—H. P. Radley, Chicago.
Foreman of Locomotive Repairs—P. T. Hickman, Chicago.
Master Car Builder—J. N. Chilson, Chicago.
Roadmasters—E. P. Rockwell, Streator, Ill.; Dan Malone, Chicago.

CHICAGO, PEKIN & SOUTHWESTERN—(See Chicago, St. Louis & Western.)

CHICAGO, ST. LOUIS & PITTSBURGH—(See Pittsburgh, Cincinnati & St. Louis.)

CINCINNATI & EASTERN AND BRANCHES—Gauge, 3 (To be changed to standard gauge in 1884). Miles operated, 118; No. of locomotives, 6; passenger cars, 5; freight and miscellaneous cars, 130.
Receiver and General Manager—S. Woodward, Cincinnati, O.
General Superintendent—G. H. Wilber, Cincinnati.
Engineer—G. W. Chadwick, Cincinnati.
Cashier for Receiver—T. D. Rhodes, Cincinnati.
Auditor and General Ticket Agent—Wm. Mansfield, Cincinnati, O.
General Freight Agent—Geo. D. Little, Cincinnati.
Master Mechanic—P. W. Naughton, Cincinnati.
Roadmaster—W. L. King, Cincinnati.

CINCINNATI & GREEN RIVER—Gauge, 5. Miles operated, 17; No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 50.
President—E. Zimmerman, Cincinnati, O.
Vice President—J. J. Perkins, Cincinnati.
Superintendent, Chief Engineer and Roadmaster—George B. Harper, Yosemite, Ky.
Secretary—A. O. Watkins, Grove, Ky.
General Passenger, Ticket and Freight Agent—R. A. Holden, Jr., Yosemite, Ky.
Purchasing Agent—J. W. McWhorter, Grove, Ky.
Master Mechanic—Geo. Lewis, Yosemite, Ky.



DELAMATER STEAM PUMPS

— AND —

Duplex Steam Pumps.

Special Patterns for Tank Service.

ERICSSON & RIDER

Hot Air Pumping Engines for Domestic Pumping.

DELAMATER IRON WORKS,

O. H. DELAMATER & CO., Proprietors,

10 Cortlandt Street, - - - NEW YORK.

"RIDER."

"ERICSSON."

BRANCH:
40 Dearborn Street,
CHICAGO.

CHICAGO RUBBER WORKS,

MANUFACTURERS OF

RUBBER GOODS

FOR

MECHANICAL PURPOSES.

Steam Hose, Rubber Belting, Hydrant Hose, Tanners' Hose, Brewers' Hose, Air Brake Hose, High Pressure Hose, Fire Engine Hose, Wagon Springs, Steam Packing, Washers Rolls, Billiard Cushions, Pump Buckets, Etc. Also Mould Goods of all Descriptions.

OFFICE
110 Randolph St., CHICAGO.

FACTORY
Grand Ave. and Rockwell St.

Correspondence solicited

J. J. RYAN. J. J. HAYES.

RAILROAD JOURNAL BEARINGS.

Anti-Friction for Railroad Bearings

— AND —

ENGINE BRASSES.

J. J. RYAN & CO.,

62 & 64 W. Monroe Street, CHICAGO, ILL.

CHICAGO, MILWAUKEE & ST. PAUL—Gauge, 4-8½. Miles operated, 4,720. No. of locomotives, 654; passenger cars, 256; freight and miscellaneous cars, 19,367.

President—Hon. Alexander Mitchell, Milwaukee, Wis.
First Vice President—Julius Wadsworth, N. Y.
Second Vice President—J. B Dumont, N. Y.
General Manager—S. S. Merrill, Milwaukee.
Assistant to Manager—Roswell Miller, Milwaukee.
General Superintendent—J. T. Clark, Milwaukee.
Assistant General Superintendents—H. C. Atkins, Minneapolis, Minn.; D. A. Olin, Racine, Wis.; C. H. Prior, Minneapolis, Minn.
Chief Engineer—D. J. Whittemore, Milwaukee.
Assistant Chief Engineer—F. W. Kimball, Milwaukee.
Engineer Bridges and Buildings—R. A. Shailer, Milwaukee.
Secretary and Assistant to Manager—P. M. Myers, Milwaukee.
Treasurer—R. D. Jennings, Milwaukee.
Comptroller—E. Q. Sewall, Milwaukee.
General Auditor—J. P. Whaling, Milwaukee.
General Passenger and Ticket Agent—A. V. H. Carpenter, Milwaukee.
General Baggage Agent—D. M. Christie, Milwaukee.
General Freight Agent—A. C. Bird, Milwaukee.
General Storekeeper—John A. Whaling, West Milwaukee.
Purchasing Agent—J. T. Crocker, Milwaukee.
Wood and Tie Agent—D. E Wason, Milwaukee.
Fuel Agent—H. R. Loyd, Milwaukee.
General Master Mechanic—J. M. Lowry, West Milwaukee.
Master Mechanics—E. Fairbairn, West Milwaukee; J. O. Pattie, Minneapolis, Minn.; S. Charnley, Dubuque, Ia.; John Taylor, Racine, Wis.
Superintendent Car Department—John Bailie, Milwaukee.
Master Car Builders—W. E. Kittredge, West Milwaukee; W. O. Davis Chicago, Ill.; J. H. Thayer, Dubuque, Ia.; E. A. Wescott, Minneapolis.
Master Car Painters—John E. Fulton, West Milwaukee; R. Shroeder, Milwaukee; E. Bartlett, Dubuque, Ia.
Division Superintendents—S. J. Collins, Chicago; G. O. Clinton, Chicago; W. G. Collins, Milwaukee; R. B. Campbell, Milwaukee; A. J. Earling, Marion, Ia.; F. D. Underwood, La Crosse, Ia.; Henry R. Williams, Minneapolis; C. W. Case, Dubuque, Ia.; S. A. Walcott, Dubuque, Ia.; G. W. Sanborn, Mason City, Ia.; J. H. Lakey, Wabasha, Minn.; W. J. Underwood, Sioux City, Ia.; C. A. Cosgrove, Oxford Junction, Ia.; L. B. Rock, Milwaukee; D. L. Bush, Racine, Wis.; W. M. Kellis, Minneapolis.
Roadmasters—W. S. Pease, Elgin, Ill.; Philip Hohman, Chicago; D. O. Bradbury, Watertown, Wis.; E. L. Bradbury, Portage, Wis.; G. B. Tripp, Tomah, Wis.; P. J. Callahan, Tomah, Wis.; D. W. Hedding, Horicon, Wis.; D. W. Briggs, Elkhorn, Wis.; J. Tracey, Freeport, Ill.; G. W. Moors, Davenport, Ia.; W. H. Gregory, Monticello, Ia.; Perry Grace, Waukesha, Wis.; C. F. Mitchell, Mazomanie, Wis.; V. A. Riton, Monroe, Wis.; D. W. Wright, Red Wing, Minn.; A. W. Loftus, Wabasha, Minn.; C. D. Shattuck, Faribault, Minn.; Tim Ahern, Calmar, Ia.; Thomas Rafferty, Lanesboro, Minn.; A. B. Hyde, Wells, Minn.; Thomas Hines, Fairmont, Minn.; J. L. Nash, Egan, Dak.; M. M. Richards, Mitchell, Dak.; J. E. Cox, Spencer, Ia.; J. Bowen, Mason City, Ia.; John McMillan, Minneapolis; H. A. Buell, Hastings, Minn.; M. Burns, Bird Island, Minn.; J. B. Kelly, Milbank, D. T.; M. Fitzpatrick, Dubuque, Ia.; J. P. Shoemaker, Sioux City, Ia.; C. H. Stockwell, Council Bluffs, Ia.; R. Stern, Marion, Ia.; W. H. Potter, Tama City, Ia.; P. H. Hennessy, Perry, Ia.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA—Gauge, 4-8½. Miles operated, 1,279½; No. of locomotives, 181; passenger cars, 112; freight and miscellaneous cars, 5,321.

President—Marvin Hughitt, 56 Kinzie st., Chicago.
Vice President, Treasurer and Assistant Sec'y—M. L. Sykes, 52 Wall st., N. Y.
Assistant President—E. W. Winter, St. Paul, Minn.
General Superintendent—J. M. Whitman, St. Paul, Minn.
Chief Engineer—Charles W. Johnson, St. Paul, Minn.
Secretary—C. W. Porter, Hudson, Wis.
Auditor—H. A. Gray, St. Paul, Minn.
Traffic Manager—F. B. Clarke, St. Paul, Minn.
General Passenger and Ticket Agent—T. W. Teasdale, St. Paul, Minn.
General Freight Agent—J. H. Hiland, St. Paul, Minn.
Purchasing Agent—W. H. S. Wright, St. Paul, Minn
Master Mechanic—Matt Ellis, St. Paul, Minn.
Assistant Master Mechanics—John J. Ellis, St. Paul, Ia.; H. C. Anderson, Sioux City, Ia.
Foremen Locomotive Repairs—John McLeod, Spooner, Wis.; J. P. Thomas, St. James, Minn.; J. K. Brassil, Altoona, Wis.; W. C. Dallas, East St. Paul, Minn.; F. A. Haines, Omaha, Neb.
Master Car Builder—H. L. Preston, Hudson, Wis.
Foremen Car Repairs—J. R. Wilson, Hudson, Wis.; J. W. Lidick, Sioux City, Ia.
Division Superintendents—A. A. Hobart, St. Paul, Minn.; H. Spencer, St. James, Minn.; James McCabe, Omaha, Neb.
Road Masters—J. C. Thurston, Black River Falls, Wis.; W. T. Payne, East St Paul, Minn.; T. McNaughton, Cumberland, Wis.; George King, Chippewa Falls, Wis.; A. Cox, Le Sueur, Minn.; Ed. Carnes, Sioux City, Iowa; C. E. McMillan, Sioux Falls, Dak.; R. A. Willis, Omaha, Neb.

T. H. HAMILTON,

BRIDGE BUILDER
AND
GENERAL CONTRACTOR.
TOLEDO, OHIO.

Orders for Bridge Timbers Promptly Filled.

Pittsburgh Locomotive Works,

BUILDERS OF FIRST-CLASS HEAVY AND LIGHT

LOCOMOTIVES,

STANDARD AND NARROW GAUGE, FOR PASSENGER AND FREIGHT SERVICE.

D. A. STEWART, President.
WILSON MILLER, Secretary and Treasurer,

PITTSBURGH, PA.

D. A. WIGHTMAN, Superintendent.

Correspondence Solicited

ESTABLISHED 1827.

EDWARD SMITH & CO.,

158 William Street,
NEW YORK.

RAILWAY VARNISHES AND COLORS.

Body Colors for Passenger Coaches a Specialty.

PRIMING, FILLING AND GROUND ROUGH STUFF.

CHICAGO, ROCK ISLAND & PACIFIC—Gauge, 4-8½. Miles operated, 1,381. No. of locomotives, 311; passenger cars, 208; freight and miscellaneous cars, 8,408.
President and General Manager—R. R. Cable, Chicago, Ill.
First Vice President—David Dows, New York.
Second Vice President and General Superintendent—A. Kimball, Chicago.
Assistant General Superintendent—H. F. Royce, Davenport, Ia.
Division Engineers—H. A. Parker, Chicago; B. B. Brayton, Davenport, Ia.
Secretary and Treasurer—F. H. Tows, New York.
Local Treasurer—W. G. Purdy, Chicago.
Auditor—C. F. Jilson, Chicago.
General Passenger and Ticket Agent—E. St. John, Chicago.
General Baggage Agent—J. D. Marston, Chicago.
General Freight Agent—W. M. Sage, Chicago.
Purchasing Agent—F. A. Marsh, Chicago.
Fuel Agent—M. R. Wood, Chicago.
Master Mechanic—T. B. Twombly, Chicago.
Division Master Mechanics—J. E. Morrill, Davenport, Ia.; J. G. Crockett, Stuart, Ia.; R. O. Carscadin, Trenton, Mo.; E. W. Wakefield, Keokuk, Ia.
Master Car Builder—B. K. Verbryck, Chicago.
Division Car Builders—S. Pullman, Chicago; C. M. Leonard, Davenport, Ia.; C. R. Best, Trenton, Mo.; H. Kummer, Keokuk, Ia.
Master Car Painter—J. Rattenbury, Chicago.
Division Superintendents—R. H. Chamberlin, Chicago; J. Givin, Des Moines, Ia.; G. F. Walker, Trenton, Mo.
Assistant Division Superintendent—J. C. Coombs, Keokuk, Ia.
Roadmasters—I. Burnett, Joliet, Ill.; J. H. Preston, Des Moines, Ia.; G. W. Dye, Washington, Ia.; W. F. Lee, Keokuk, Ia.

CINCINNATI & OHIO RIVER—Gauge, 4-8½. (Road under construction from Cincinnati to Gallipolis, O.)
President—W. M. Ramsey, Cincinnati, O.
Secretary—W. R. Grimes, Cincinnati.
Chief Engineer—C. L. Gould, Cincinnati.

CINCINNATI & SOUTHEASTERN—Gauge, 4-8½. Miles operated, 17. No. of locomotives, 1; passenger cars, 1; freight and miscellaneous cars, 15.
President—C. Miller, Franklin, Pa.
Vice President—C. W. Mackey, Franklin, Pa.
General Manager—J. V. Patton, Newport, Ky.
Treasurer—I. Reineman, Franklin, Pa.
Secretary—H. M. Hughes, Franklin, Pa.
General Passenger and Freight Agent—N. S. Dudley, Flemingsburg, Ky.
Purchasing Agent—E. H. Sibley, Newport, Ky.

CINCINNATI, GEORGETOWN & PORTSMOUTH—Gauge, 3. Miles operated, 35. No. of locomotives, 3; passenger cars, 5; freight and miscellaneous cars, 35.
President—M. Werk, Cincinnati, O.
Vice President—A. Pfirrmann, Cincinnati.
General Superintendent, Secretary, Auditor and Purchasing Agent—M. Simmons, Cincinnati.
Treasurer—W. E. Brachmann, Cincinnati.
Superintendent Motive Power and Machinery—J. C. Homer, Cincinnati, O.
Roadmaster—John Peterson, Cincinnati.
Supervisor Bridges—Thomas Taggart, Cincinnati.

CINCINNATI, HAMILTON & INDIANAPOLIS—(See Cin., Ham. & Day'n.)

CINCINNATI, HAMILTON & DAYTON—(Cincinnati, Hamilton & Indianapolis; Cincinnati, Richmond & Chicago, and Dayton & Michigan). Gauge, 4-8½. Miles operated, 355; No. of locomotives, 96; passenger cars, 75; freight and miscellaneous cars, 2,682.
President—H. J. Jewett, New York City.
Vice President—C. C. Waite, Cincinnati, O.
General Superintendent—C. J. Hepburn, Cincinnati.
Assistant Superintendent—W. F. Stark, Toledo, O.
Engineer—Joseph Ramsey, Jr., Cincinnati.
Secretary and Treasurer—F. H. Short, Cincinnati.
Auditor—C. B. Marsh, Cincinnati.
General Ticket Agent—Samuel Stevenson, Cincinnati.
General Baggage Agent—Joseph P. Cox, Cincinnati.
General Freight Agent—A. H. McLeod, Cincinnati.
Master Mechanic—John Black, Lima, O.
Foreman of Locomotive Repairs—C. C. Kline, Cincinnati.
Master Car Builder—W. H. H. Allison, Cincinnati.
Train Masters—A. Griggs, Cincinnati; M. Mounts, Indianapolis, Ind.; T. Sullivan, Lima, O.
Supervisors—R. Brennan, Hamilton, O.; J. Janbken, Lima, O.; J. Miller, Connersville, Ind.
Superintendent Bridges and Buildings—H. Golden, Hamilton, O.

CINCINNATI, INDIANAPOLIS, ST. LOUIS & CHICAGO—Gauge, 4-8½. Miles operated, 388. No. of locomotives, 75; passenger cars, 87; freight and miscellaneous cars, 3,074.
President—M. E. Ingalls, Cincinnati, O.

METCALF, PAUL & CO.

Trade Mark.

VERONA TOOL WORKS,

MANUFACTURERS OF

SOLID STEEL TAMPING AND CLAY PICKS,

Track Chisels, Spike Mauls, Claw, Lining and Pinch Bars

TRACK WRENCHES, RAIL TONGS, RAIL FORKS, AND OTHER TRACK TOOLS OF THE

BEST MATERIAL AND WORKMANSHIP.

PATENT VERONA NUT-LOCKS.

THE SIMPLEST and MOST EFFECTIVE NUT-LOCKS KNOWN.

PITTSBURGH, PA.,
Seventh Ave. and Liberty St.

CHICAGO, ILL.,
22 and 24 West Lake St.

General Superintendent—J. W. Sherwood, Indianapolis, Ind.
Chief Engineer—T. O. Morris, Indianapolis.
Assistant Chief Engineer—E. A. Herman, Indianapolis.
Secretary and Treasurer—E. F. Osborn, Cincinnati.
General Passenger and Ticket Agent—John Egan, Cincinnati.
General Baggage Agent—J. Heglin, Cincinnati.
General Freight Agent—H. J. Page, Cincinnati.
Purchasing Agent—George Tozzer, Cincinnati.
Superintendent Motive Power & Machinery—J. S. Patterson, Cincinnati.
Freight and Ticket Accountant—A. Wipper, Cincinnati.
Roadmasters—J. C. McQuiston, Indianapolis; P. J. Kelly, Kankakee, Ill.

CINCINNATI, NEW ORLEANS & TEXAS PACIFIC AND ASSOCIATE ROADS—(This system embraces the Cincinnati, New Orleans & Texas Pacific; Alabama Great Southern; Vicksburg & Meridian; Vicksburg, Shreveport & Pacific; New Orleans & Northeastern).—Gauge, 5. Miles operated, 1,071. No. locomotives, 156; passenger cars, 100; freight and miscellaneous cars, 4,299.
President Cincinnati, New Orleans & Texas Pacific; Alabama Great Southern, and New Orleans & Northeastern and General Manager of entire system—John Scott, Cincinnati, O.
President Vicksburg & Meridian, and Vicksburg, Shreveport & Pacific—O. Plock, New York.
Assistant General Manager—C. C. Harvey, Cincinnati.
General Superintendent—R. Carroll, Cincinnati.
Chief Engineer—G. Bouscaren, Cincinnati.
Secretary and Treasurer—H. H. Tatem, Cincinnati Southern Div., Cincinnati.
Secretary Vicksburg & Meridian and Vicksburg, Shreveport & Pacific—D. Graff, New York.
Secretary New Orleans & Northeastern—O. T. Ambrose, Cincinnati, O.
Treasurer Alabama Great Southern; Vicksburg & Meridian; Vicksburg, Shreveport & Pacific; and New Orleans & Northeastern—F. Hahn, Chattanooga, Tenn.
Comptroller—R. F. Munro, Cincinnati.
General Passenger and Ticket Agent—E. P. Wilson, Cincinnati.
General Baggage Agent—D. Ennis, Cincinnati.
General Freight Agent—H. Collbran, Cincinnati.
Purchasing Agent—R. W. Healy, Cincinnati.
Superintendent Motive Power and Machinery—James Meehan, Ludlow, Ky.
Division Master Mechanics—Cincinnati Division, A. Thomson, Chattanooga, Tenn.; Geo. Manuel, A. G. S. Division, Chattanooga, Tenn.; J. D. Browne, V. & M. Division, Vicksburg, Miss.; W. Bell Smith, Monroe, La.
Master Car Builder, J. Richardson, Ludlow, Ky.
Superintendents—W. W. Wells, Cincinnati Southern Division, Somerset, Ky.; D. McLaren, A. G. S. Division, Chattanooga, Tenn.; T. S. Williams, N. O. & N. E. Division, New Orleans, La.; E. F. Raworth, V. & M. Division, Vicksburg, Miss.; F. Y. Dabney, V. S. & P. Division, Monroe, La.
Roadmasters—M. Shea, Ludlow, Ky.; P. Nolan, Oakdale Junction, Tenn.; G. A. Preston, Monroe, La.; M. Rowan, Hattiesburg, Miss.

CINCINNATI, SELMA & MOBILE—Gauge, 5. Miles operated, 71. No. of locomotives, 6; passenger cars, 4; freight and miscellaneous cars, 66.
President—Fred Wolffe, New York.
General Superintendent—A. McCollister, Selma, Ala.
Secretary—M. Calm, New York.
Treasurer and Purchasing Agent—H. L. Wright, Selma, Ala.
Auditor, General Passenger, Ticket and Freight Agent—A. McCollister, Selma, Ala.
Master Mechanic—J. M. Levis, Marion, Ala.
Master Car Builder—J. C. Chapman, Marion, Ala.
Roadmaster—J. P. Clay, Greensboro, Ala.

CINCINNATI, VAN WERT & MICHIGAN—Gauge, 4-8½. Miles operated, 75.5. No. of locomotives, 5; passenger cars, 6; freight and miscellaneous cars, 83.
President—Grinnell Burt, New York.
Vice President—J. M. C. Marble, Van Wert, O.
General Superintendent—E. C. Dawes, Van Wert, O.
Assistant General Superintendent—R. J. Cavett, Van Wert, O.
Chief Engineer—Everett Garrison, Greenville, O.
Secretary and Treasurer—D. B. Halstead, New York.
Auditor and Gen'l Passenger and Ticket Agent—E. M. Reynolds, Van Wert, O.
General Freight Agent—H. R. Johnson, Van Wert, O.

CINCINNATI, WABASH & MICHIGAN—Gauge, 4-8½. Miles operated, 165. No. of locomotives, 13; passenger cars, 11; freight and miscellaneous cars, 400.
President—J. H. Wade, Cleveland, O.
Vice President—Wm. Bingham, Cleveland, O.
General Manager and Purchasing Agent—Norman Beckley, Elkhart, Ind.
Superintendent—O. W. Lamport, Wabash, Ind.
Secretary and Treasurer—Wm. S. Jones, Cleveland, O.
Auditor—Jos. H. Craig, Elkhart, Ind.
General Passenger, Ticket and Freight Agent—Owen Rice, Elkhart, Ind.

JOURNAL-BEARING KEYS,
JOURNAL-BOX COVERS,
DRAW-BARS.

SEAT-BACK ARMS,
SIDE FOOT-RESTS,
DOOR FASTENINGS.

MALLEABLE
REFINED IRON
Air Furnace.
CASTINGS

FREIGHT-CAR LOCKS,
LAMP HOLDERS,
SLEEVE NUTS.

MANUFACTURED BY
DAYTON MALLEABLE IRON CO.,
DAYTON, O.

FROST & ADAMS,
37 CORNHILL, BOSTON.

AGENTS FOR
Levy's Blue Process Paper.

COPIES TAKEN
BY THE
Levy Copying Process.

DRAUGHTING INSTRUMENTS
AND
Supplies for Engineers and Draughtsmen.
AGENTS FOR
ABBOTT'S PRACTICAL ELLIPSOGRAPH,
This is a new instrument and the best in the market for the work.
Engineers and others are requested to send for our Illustrated Catalogue, for examination, before placing their orders elsewhere.

Master Mechanic and Master Car Builder—S. B. Tinker, Wabash, Ind.
General Baggage Agent—E. E. Beckley, Elkhart, Ind.
Foreman of Locomotive Repairs—John Griswold, Wabash, Ind.
Foreman of Car Repairs—George Petty, Wabash, Ind.
Train Master—C. H. Briggs, Wabash, Ind.
Roadmasters—Robt. Melrose, Wabash, Ind.; Edward Mulcahy, Niles, Mich.

CINCINNATI, WASHINGTON & BALTIMORE—Gauge, 4-8½. Miles operated, 812; No. of locomotives, 65; cars, 1,422.
President—Orland Smith, Cincinnati, O.
General Manager—J. H. Stewart, Cincinnati.
Master of Transportation—J. E. Rose, Cincinnati.
Treasurer—W. E. Jones, Cincinnati.
Auditor—Chas. F. Low, Cincinnati.
General Passenger and Ticket Agent—T. P. Barry, Cincinnati.
General Freight Agent—R. M. Fraser, Cincinnati.
Master Mechanic—E. Evans, Chillicothe, O.
Superintendent Car Department—T. G. Duncan, Zaleski, O.
Roadmaster—S. W. Stone, Cincinnati.

CINCINNATI, WHEELING & NEW YORK—Gauge, 4-8½. Miles operated 18 (30 miles under construction). No. of locomotives, 2; passenger cars, 3; freight and miscellaneous cars, 2.
President—Thomas R. Sharp, 115 Broadway, New York.
Vice Presidents—F. M. Atkinson, N. D. Gallagher, Batesville, O
General Superintendent—F. M. Atkinson, Batesville, O.
Chief Engineer—J. W. Andrews, McConnellsville, O.
Assistant Chief Engineer—Captain I. C. Ramsaw, McConnellsville, O.
Secretary and Treasurer—W. H. Atkinson, Batesville, O.
Auditor—W. W. Elliott, Batesville, O.
Traffic Manager—L. I. Cutter, Cumberland, O.
Master Mechanic—J. M. Hamsberry.

CLARKSBURG, WESTON & GLENVILLE—Gauge, 3. Miles operated, 26. No. of locomotives, 4; passenger cars, 4; freight and miscellaneous cars, 42.
President and General Manager—A. H. Kunst, Weston, W. Va.
Vice President—J. M. Bennett, Weston, W. Va.
Secretary—W. G. Bennett, Weston, W. Va.
Treasurer—M. W. Harrison, Weston, W. Va.
General Freight Agent—E. M. Vandervort, Weston, Va.
Supervisor—M. Cleary, Jane Lew, W. Va.
Foreman Trestles—Wm. Courtright, Jane Lew, W. Va.

CLEVELAND & MARIETTA—Gauge, 4-8½. Miles operated, 105. No. of locomotives, 13; passenger cars, 7; freight and miscellaneous cars, 669.
President—R. C. Livingston, New York.
Vice President and General Manager—M. D. Woodford, Toledo, O.
Chief Engineer—C. A. Wilson, Toledo, O.
Secretary—R. C. Cline, Cambridge, O.
Treasurer—E. B. De Yoe, Cambridge, O.
Auditor—J. C. Webb, Cambridge, O.
Train Master—T. C. Clark, Cambridge, O.
General Passenger and Ticket Agent—J. M. Hall, Toledo, O.
General Freight Agent—A. G. Blair, Toledo, O.
Purchasing Agent—W. R. Woodford, Toledo, O.
Master Mechanic—A. Galloway, Cambridge, O.
Road Master—J. I. Kidd, Cambridge, O.

CLEVELAND & PITTSBURGH—(See Pennsylvania Co.)

CLEVELAND, COLUMBUS, CINCINNATI & INDIANAPOLIS—Gauge, 4-8½. Miles operated, 785. No. of locomotives, 210; passenger cars, 159; freight and miscellaneous cars, 7,716.
President—J. H. Devereaux, Cleveland, O.
Vice President—Stevenson Burke, Cleveland, O.
General Manager—E. B. Thomas, Cleveland, O.
Engineer of Bridges—W. C. Irwin, Cleveland, O.
Superintendents of Construction—W. Cromer, Cleveland, O.; M. Maxwell, Indianapolis, Ind.
Treasurer—Geo. H. Russell, Cleveland, O.
Auditor—P. A. Hewitt, Cleveland, O.
Traffic Manager—O. B. Skinner, Cleveland, O.
General Passenger Agent—A. J. Smith, Cleveland, O.
General Baggage Agent—D. M. Calkins, Cleveland, O.
General Freight Agents—Lucien Hills, Cleveland, O.; H. W. Gay, St. Louis.
Purchasing Agent—J. L. Yale, Cleveland, O.
General Master Mechanic—W. F. Turreff, Cleveland, O.
Division Master Mechanics—Wm. Garstang, Cleveland, O.; J. K. Lape, Brightwood, Ind.; T. W. Ransom, Mattoon, Ill.
Foremen of Car Department—A. G. Steinbrenner, Cleveland, O.; N. Mark, Brightwood, Ind.; H. S. Gordon, Dayton, O.
Division Superintendents—Robert Blee, Cleveland; J. O. Ewan, Indianapolis, Ind.; T. W. Burrows, St. Louis, Mo.; J. H. Barrett, Dayton.
General Roadmaster—G. M. Beach, Cleveland.

ORDER DIRECT FROM

IRON CLAD PAINT CO.

FACTORY, 75 & 77 Central Way,
SEC'Y & TREAS., No. 3 Case Building,
CLEVELAND, - - OHIO.

JAMES WADE, Sec'y and Treas.

A. EVERETT, President.

Trade Mark Patented--Paint Patented.

Sole Manufacturers of

THE IRON CLAD PAINT

FROM LAKE SUPERIOR IRON ORE.

Not Calcined, not Burnt Ore. None genuine unless marked with this trade mark. Sold dry, and ground stiff, in pure boiled linseed oil; also ready mixed for the brush.

USED BY NEARLY ALL RAILROADS.

THE IMPROVED JOHNSON
Low Pressure Heater.

Forming two independent currents—hot water for moderate weather, reinforced by steam for severe cold.

25 per cent. greater heating capacity

than any other apparatus, with

One-third Less Fuel.

Noiseless in operation. Constructed with every arrangement for safety. Steam circulation with from 5 to 10 lbs. pressure.

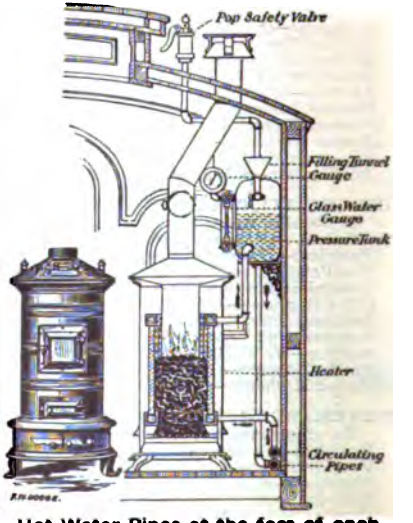
THE MOST SUCCESSFUL
Car Heater
IN OPERATION,

and most highly appreciated by passengers.

A mixture is used which will not freeze at 45° below zero.

480 of these heaters are now in use. Send for circular giving the opinion of railway men who have thoroughly tested them.

THE JOHNSON RAILWAY HEATER CO.,
No. 8 Exchange Place,
BOSTON, - - Mass.



Hot Water Pipes at the feet of each Passenger.

Roadmasters—C. Potter, Delaware, O.; W. Bowen, Dayton, O.; H. Gardiner, Bellefontaine, O.; H. O. Eastman, Union, Ind.; J. Keenan, Mattoon, Ill.; Wm. Henry, Indianapolis, Ind.; C. Regan, Terre Haute, Ind.; R. McMahon, Litchfield, Ill.

CLEVELAND, DELPHOS & ST. LOUIS—Gauge, 3. Miles operated, 57. No. of locomotives, 3; passenger cars, 4; freight and miscellaneous cars, 39.
President—Wm. Semple, Allegheny, Pa.
Vice President—C. A. Evans, Delphos, O.
General Manager and Purchasing Agent—I. H. Burgoon, Delphos, O.
Chief Engineer—W. H. Fuller, Delphos, O.
Secretary—J. D. Callery, Pittsburgh, Pa.
Treasurer—Joe. Boehmer, Delphos, O.
Auditor, Gen'l Passenger, Ticket and Freight Agent—C. W. Risley, Delphos, O.
Master Mechanic—B. F. Marshall, Delphos, O.

CLEVELAND, INDIANA & ST. LOUIS—Gauge, 4-8½. Miles operated, 19.39. No. of locomotives, 2; miscellaneous cars, 20.
President—John Lee, Anderson, Ind.
Receiver and General Superintendent—J. A. Larnerd, Anderson, Ind.
Chief Engineer—E. Cottingham, Noblesville, Ind.
Secretary and Auditor—E. P. Schlater, Anderson, Ind.
Treasurer—W. P. Watson, N. Y.

CLEVELAND, MT. VERNON & DELAWARE— Gauge, 4-9. Miles operated, 144.4. No. of locomotives, 24; passenger cars, 21; freight cars, 761.
Receiver—Geo. D. Walker, Cleveland, O.
General Superintendent and Purchasing Agent—N. Monsarrat, Akron, O.
Chief Engineer—R. French, Akron, O.
Auditor—C. W. Schaap, Akron, O.
General Passenger, Ticket, Baggage and Freight Agent—E. T. Affleck, Columbus, O.
Master Mechanic—G. M. Taylor, Mt. Vernon, O.
Foreman of Locomotive Repairs—Geo. Flower, Mt. Vernon, O.
Master Car Builder—Chas. Roberts, Mt. Vernon, O.
Foreman Car Painters—B. F. Harris, Mt. Vernon, O.
Master of Transportation—R. G. Sharpe, Akron, O.
Road Master—J. M. Munch, Mt. Vernon, O.
Division Foreman—J. F. Donelon, Akron, O.

CLEVELAND, LORAIN & WHEELING—Gauge, 4-8½. Miles op'd, 158. No. of locomotives, 32; passenger cars, 10; freight and miscellaneous cars, 3,300.
President—Selah Chamberlain, Cleveland, O.
Vice President—W. S. Streator, Cleveland, O.
General Manager—Oscar Townsend, Cleveland, O.
General Superintendent—W. Thornburgh, Lorain, O.
Chief Engineer—C. M. Barber, Cleveland, O.
Secretary and Treasurer—Chas. L. Cutter, Cleveland, O.
Auditor—W. H. Park, Cleveland, O.
Traffic Manager—W. H. Grout, Cleveland, O.
Master Mechanic—W. A. Stone, Lorain, O.
Foreman of Locomotive repairs—C. H. Warburton, Lorain, O.
Foreman of Car Repairs—George Butts, Lorain, O.
Roadmaster—James Reynolds, Russell, O.

CLEVELAND, YOUNGSTOWN & PITTSBURGH—Gauge, 4-8½. Miles operated, 61; No. of locomotives, 5; passenger cars, 4; freight and miscellaneous cars, 320.
President—H. W. Ford, New York.
Vice President and Chief Engineer—W. R. Bergholz, 5 Cortlandt st. New York.
Assistant General Superintendent and Assistant Chief Engineer—D. T. Lumley, Alliance, O.
Secretary and Treasurer—T. T. Buckley, New York.
Traffic Manager—E. E. Scranton, Alliance, O.
Master Mechanic—M. R. Shatters, Alliance, O.
Roadmasters—Alexander Cowan, Alliance, O.

CLOVE BRANCH—Gauge, 4-8½. Miles operated, 8.04. No. of locomotives, 1; passenger cars, 1; freight and miscellaneous cars, 60.
President and Treasurer—John S. Schultze, Matteawan, N. Y.
Sup't and Gen'l Freight and Purchasing Agent—C. L. Kimball, Matteawan, N.Y.
Auditor and General Passenger and Ticket Agent—W. H. Moore, Matteawan, N. Y.
Master Mechanic, Master Car Builder and Car Painter—W. G. Van Buskirk, Dutchess Junction, N. Y.
Roadmaster—B. F. Stowell, Matteawan, N. Y.

COBOURG, PETERBOROUGH & MARMORA—Gauge, 5-6. Miles operated, 45½. No. of locomotives, 5; passenger cars, 4; freight and miscellaneous cars, 251.
President and Treasurer—Col. W. P. Chambliss, Cobourg, Ont.
General Manager, Superintendent, Passenger, Ticket, Freight and Purchasing Agent—James R. Barber, Cobourg, Ont.
Secretary—B. O. King, Cobourg, Ont.
Master Mechanic—James Clark, Cobourg, Ont.
Master Car Builder—John Tinny, Cobourg, Ont.
Roadmaster—N. Hickman, Cobourg, Ont.

COLUMBIA & GREENVILLE—Gauge, 5. Miles operated, 295.5. No. of locomotives, 24; passenger cars, 12; freight and miscellaneous cars, 228.
President—A. C. Haskell, Columbia, S. C.
Vice President and General Manager—A. L. Rives, Richmond, Va.
Superintendent—G. R. Talcott, Columbia, S. C.
Assistant Engineer—R. Southgate, Columbia, S. C.
Treasurer—J. C. B. Smith, Columbia, S. C.
Traffic Manager—Sol. Haas, Richmond, Va.
General Passenger and Ticket Agent—M. Slaughter, Richmond.
General Baggage Agent—J. H. Hill, Richmond.
General Freight Agent—J. H. Drake, Richmond.
Purchasing Agent—J. P. Minetree, Richmond.
Supervisors—Chas. Ellis, Jr., Columbia, S. C.; R. S. Ellis, Newberry, S. C.; J. N. Godsey, Belton, S. C.

COLUMBIA & PUGET SOUND—Gauge, 3. Miles operated, 21.8. No. of locomotives, 7; passenger cars, 3; freight and miscellaneous cars, 111.
This road is owned by the Oregon Improvement Company, of which C. H. Prescott is President and General Manager, Portland, Ore., and J. L. Howard General Superintendent, Portland, Ore.

COLUMBUS & EASTERN—Miles operated, 61.
President—J. E. Redfield, Columbus, O.
Vice President—G. G. Collins, Columbus, O.
General Manager—C. H. Raser, Columbus, O.
Treasurer—W. H. Albery, Columbus, O.
Secretary—J. C. Donaldson, Columbus, O.
Auditor—C. A. Cavert, Columbus, O.
General Freight and Passenger Agent—W. W. Daniel, Columbus, O.

COLUMBUS & WESTERN—Gauge 5. Miles operated, 89. No. locomotives, 5; passenger cars, 1; freight and miscellaneous cars, 32.
President—W. G. Raoul, Savannah, Ga.
General Manager and Chief Engineer—E. A. Flewellen, Opelika, Ala.
Secretary and Treasurer—E. McIntyre, Savannah, Ga.
Traffic Manager—W. F. Shellman, Savannah, Ga.
General Passenger, Ticket and Freight Agent—G. A. Whitehead, Savannah.
Purchasing Agent—C. H. Carson, Savannah, Ga.
Master Mechanic—J. C. Albrecht, Columbus, Ga.
Master Car Builder—A. J. Nix, Columbus, Ga.
Roadmaster—R. A. Bridges, Opelika, Ala.

COLUMBUS & ROME—Gauge, 3. Miles operated, 33. No. of locomotives, 3; passenger cars, 3; freight and miscellaneous cars, 27.
President—John Peabody, Columbus, Ga.
General Manager and General Passenger, Ticket, Baggage, Freight, and Purchasing Agent—M. E. Gray, Columbus, Ga.
Secretary and Treasurer—J. M. Frazier, Columbus, Ga.
Master Mechanic and Roadmaster—J. D. McPhail, Columbus, Ga.

COLUMBUS, HOCKING VALLEY & TOLEDO—Gauge, 4-9. Miles operated, 325; No. of locomotives, 90; passenger cars, 32; freight and miscellaneous cars, 7,360.
President, M. M. Greene, Columbus, O.
Vice President, Stevenson Burke, Cleveland, O.
General Superintendent—George R. Carr, Columbus.
Engineers—W. H. Jennings, Columbus, O.; F. B. Sheldon, Columbus, O.
Secretary and Purchasing Agent—W. M. Greene, Columbus.
Treasurer—W. N. Cott, Columbus.
Auditor—J. D. Lott, Columbus.
General Passenger and Ticket Agent—W. H. Harrison, Columbus.
General Freight Agent—W. A. Mills, Columbus.
Master Mechanic—I. G. Hutchins, Columbus.
Master Car Builder—J. M. Rockafield, Columbus.
Master Car Painter—W. T. Hubbell, Columbus.
Division Superintendents—M. T. Seymour, Toledo Division, Columbus; M. P. L. Booth, Hocking Valley Division, Columbus; C. D. Norris, River Division, Logan, O.
Roadmasters—W. C. Merritt, Lancaster, O.; A. L. Donaldson, Columbus, O.; E. G. Scanlan, Logan, O.

CONCORD AND BRANCHES—Gauge, 4-8½. Miles operated, 169. No. of locomotives, 40; passenger cars, 44; freight and miscellaneous cars, 1,199.
President—Frederick Smyth, Manchester, N. H.
General Superintendent and Purchasing Agent—H. E. Chamberlin, Concord, N. H.
Secretary—J. W. Fellows, Manchester, N. H.
Treasurer—Nathan Parker, Manchester, N. H.
General Ticket Agent—F. E. Brown, Concord, N. H.
General Baggage Agent—J. M. Jones, Concord, N. H.
General Freight Agent—Samuel Barrett, Concord, N. H.
Fuel Agent—W. H. Alexander, Concord, N. H.
Master Mechanic and Master Car Builder—J. T. Gordon, Concord, N. H.
Foreman of Locomotive Repairs—Porter Crane, Concord, N. H.

Foreman of Car Repairs—Philip Flanders, Concord, N. H.
Master Car Painter—Warner Bailey, Concord, N. H.
Road Masters—Perry A. Eaton, Wm. P. Burbank, Henry M. Wood, Manchester, N. H.

CONCORD & CLAREMONT—Gauge, 4-8½. Miles operated, 70.9.
(Equipment supplied by Northern Railroad.)
President—Henry C. Sherburne, Concord, N. H.
Superintendent—Geo. E. Todd, Concord.
Treasurer—Geo. A. Kettell, Boston.
Cashier—Geo. H. Hazeltine, Concord.
General Ticket and Freight Agent—W. F. Simons, Concord.
General Baggage Agent—D. W. Waldron, Concord.
Fuel Agent—Geo. E. Shepard, Concord.
Foreman of Locomotive Repairs—C. C. Aspinwall, Concord.
Foreman of Car Repairs—Chas. Morgan, Concord.
Foreman Car Painter—C. W. Hazeltine, Concord.
Roadmaster—J. N. Perkins, Claremont, N. H.

CONNECTICUT RIVER—Gauge, 4-8½. Miles operated, 80. No. of locomotives, 41; passenger cars, 33; freight and miscellaneous cars, 539.
President—N. A. Leonard, Springfield, Mass.
General Superintendent and Purchasing Agent—John Mulligan, Springfield, Mass.
Treasurer—Seth Hunt, Springfield, Mass.
Auditor—J. Whittelsey, Northampton, Mass.
General Accountant—Wm. G. McIntyre, Springfield, Mass.
General Ticket Agent—C. H. Cram, Springfield, Mass.
General Baggage Agent—W. E. Hill, Springfield, Mass.
General Freight Agent—H. E. Howard, Springfield, Mass.
Master Mechanic—Wm. H. Stearns, Springfield, Mass.
Foreman of Locomotive Repairs—C. H. Ginn, Springfield, Mass.
Foreman of Car Repairs—R. Hitchcock, Springfield, Mass.
Foreman Car Painters—C. E. Paige, Springfield, Mass.
Road Masters—J. R. Patch, Springfield, Mass.; Patrick Dee, Keene, N. H.

CONNOTTON VALLEY—Gauge, 3. Miles operated, 161. No. of locomotives, 26; passenger cars, 35; freight and miscellaneous cars, 975.
President—Francis Bartlett, Boston.
Receiver, General Manager and Passenger and Freight Agent—Samuel Briggs, Cleveland, O.
Chief Engineer—O. D. Leisenring, Canton, O.
Treasurer—H. W. Waite, Boston.
Assistant Treasurer—A. Thierry, Canton, O.
Auditor—F. E. Smith, Canton, O.
Master of Transportation—R. D. Briggs, Canton, O.
Master Mechanic—B. C. Bosworth, Canton, O.
Roadmaster—F. W. Jones, Canton, O.

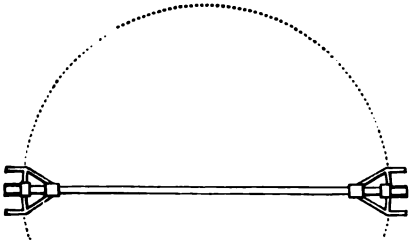
COOPERSTOWN & SUSQUEHANNA VALLEY—Gauge, 4-8½. Miles operated, 16. No. of locomotives, 2; passenger cars, 3; freight and miscellaneous cars, 11.
President, General Manager and Purchasing Agent—Andrew Shaw, Cooperstown, N. Y.
Vice President—E. M. Harris, Cooperstown, N. Y.
Secretary, Treasurer, Auditor, General Passenger and Ticket Agent—B. M. Cady, Cooperstown, N. Y.
Master Mechanic and Car Builder—Alonzo Mumford, Portlandville, N. Y.

CORNING, COWANESQUE & ANTRIM—(See Fall Brook Coal Co.)

CORNWALL & LEBANON AND COLEBROOK VALLEY—Gauge, 4-8½, Miles operated, 22. No. of locomotives, 5; passenger cars, 2; baggage cars, 1; freight and miscellaneous cars, 20.
President—Robert H. Coleman, Cornwall, Pa.
General Superintendent, Passenger and Freight Agent—J. C. Jennings, general offices, Lebanon, Pa.
Auditor—J. E. Jennings, Lebanon, Pa.
Secretary and Treasurer—Hugh M. Maxwell, Lebanon, Pa.
Supervisor—John McDonnel, Lebanon, Pa.

CORNWALL—Gauge, 4-8½. Miles operated, 15; No. of locomotives, 5; passenger cars, 3; freight and miscellaneous cars, 174.
President and General Manager—Wm. Coleman Freeman, Cornwall, Pa.
General Superintendent, Chief Engineer and Roadmaster—John M. Havard, Lebanon, Pa.
Secretary—J. P. Jackson, Cornwall, Pa.
Treasurer—D. S. Hammond, Lebanon, Pa.
General Ticket Agent—E. L. Groff, Cornwall, Pa.
General Baggage Agent—John Deitrich, Lebanon, Pa.
General Freight Agent—B. F. Schools, Lebanon, Pa.
Master Mechanic—Henry Yeager, Lebanon, Pa.
Foreman of Locomotive Repairs—Henry L. Arnold, Lebanon, Pa.
Master Car Builder—Levi Blouch, Lebanon, Pa.

The Circular Track Gauge.



The accompanying cuts represent important improvements in Track Gauges, by which we furnish a reliable, cheap and substantial Gauge, reducing liability to error in track laying to the lowest limit.

Fig. 1. We take segments of a circle, of which the diameter shall be required distance apart of rails. We attach the segments on ends of an iron tube, at the proper distance apart, to conform to the circle, of which they are parts.

By this form of construction the gauge distance will always be the same, whether the gauge is applied at right angles or oblique angles.

Fig. 2 illustrates another form of construction under same patent. We attach on one end of an iron tube a knife edge, and on the other end a segment, part of a circle of which the knife edge is the center, so that when the knife edge rests against inside of one rail, and the arc of the segment against inside of the other, the distance between contact points will always be the correct gauge measure between rails.

With this form of construction, also, the gauge distance will always be the same, whether the gauge be laid at right angles or oblique angles with the rails.

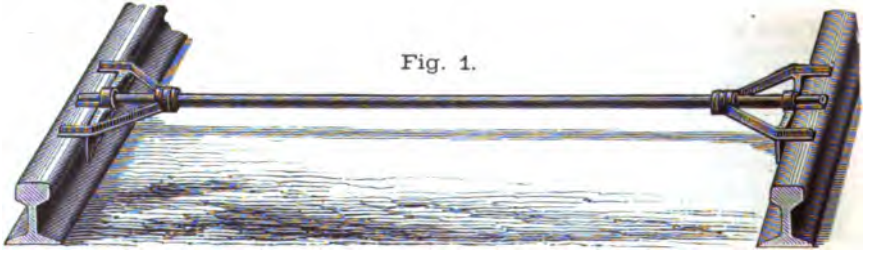


Fig. 1.

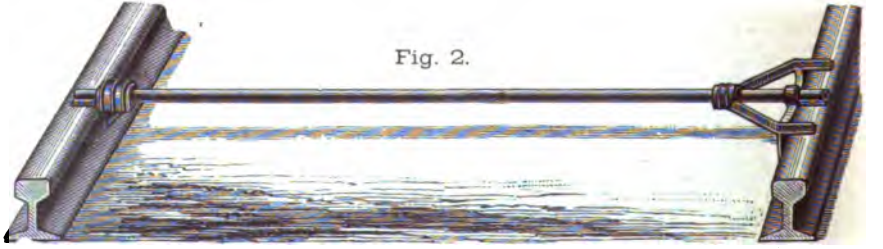


Fig. 2.

ANDREW WARREN,

Sole Manufacturer for the United States.

713 N. Second st., ST. LOUIS, MO.

Lease from Patentee.

CORNWALL & MT. HOPE—Gauge, 4-8½. Miles operated, 6. No. of locomotives, 1; passenger cars, none; freight and miscellaneous cars, none.
President and General Manager—Wm. Coleman Freeman, Cornwall, Pa.
General Superintendent—J. M. Havard, Lebanon, Pa.
Chief Engineer—Carl Von Schmalensee, Lebanon, Pa.
Secretary—J P. Jackson, Cornwall, Pa.
Treasurer and Purchasing Agent—D. S. Hammond, Lebanon, Pa.

COUDERSPORT & PORT ALLEGANY—Gauge, 3. Miles operated, 17. No. of locomotives, 2; passenger cars, 4; freight and miscellaneous cars, 52.
President—F. W. Knox, Coudersport, Pa.
Vice President—C. V. Barse, Olean, N. Y.
General Superintendent and Purchasing Agent—B. A. McClure, Coudersport, Pa.
Secretary—A. B. Mann, Coudersport, Pa.
Treasurer—M. W. Barse, Olean, N. Y.
Auditor—A. G. Olmsted, Coudersport, Pa.

CREDIT VALLEY—(See Ontario & Quebec).

CRESCENT SPRINGS—Gauge, 3 feet. Miles operated, 12. No. of locomotives, 2; freight and miscellaneous cars, 50.
President—Artemus Lamb, Clinton, Ia.
General Manager, Secretary and Treasurer—David Joyce, Lyons, Ia.
Assistant General Manager—W. R. Bourm, Shell Lake, Wis.
General Superintendent—John Devereaux, Shell Lake, Wis.
Chief Engineer—Robert Huffman, Shell Lake, Wis.
Purchasing Agent—C. I. Wickersham, 107 Dearborn street, Chicago.
Superintendent Motive Power and Machinery—Ira Wood, Shell Lake, Wis.
Master Car-Builder—John Blackburn, Shell Lake, Wis.
Roadmaster—John Rock, Shell Lake, Wis.

CROWN POINT IRON COMPANY'S—Gauge, 3. Miles operated, 13. No. of locomotives, 3; passenger cars, 3; freight and miscellaneous cars, 115.
President—General John Hammond, Crown Point, N. Y.
General Manager—A. L. Inman, Plattsburgh, N. Y.
Superintendent and Road Master—Jas. McMann, Crown Point, N. Y.
Secretary—C. L. Hammond, Crown Point, N. Y.
Treasurer—H. M. Olmsted, 21 Cortland st., New York city.
Auditor—Talbot Oliphant, 21 Cortland st., New York city.
Purchasing Agent and Cashier—H. L. Reed, Crown Point, N. Y.
Master Mechanic—C. W. Sanders, Crown Point, N. Y.
Master Car Builder—Z. C. Sherman, Crown Point, N. Y.

CUMBERLAND & MAURICE RIVER—Gauge, 4-8½. Miles operated, 21½. No. of locomotives, 2; passenger cars, 5; freight and miscellaneous cars, 6.
Vice President—J. Hicks Conrad, 314½ Walnut street, Philadelphia.
Gen'l Sup't, Purchasing and Fuel Agent—L. H. Dowdney, Bridgeton, N. J.
Chief Engineer—Wm. S. Lambert, Pt. Norris, N. J.
Secretary and Treasurer—C. W. Littell, 201 Walnut place, Philadelphia.
Auditor—H. J. Greer, 201 Walnut place, Philadelphia.
Roadmaster—Jos. Comer, Underwood, N. J.

CUMBERLAND & PENNSYLVANIA—Gauge, 4-8½. Miles operated, 55. No. of locomotives, 22; passenger cars, 8; freight and miscellaneous cars, 570.
President—Charles F. Mayer, Baltimore, Md.
General Supt. and Purchasing Agent—P. L. Burwell, Cumberland, Md.
Secretary and Treasurer—C. W. Keim, Baltimore, Md.
Auditor—J. P. Hewitt, Baltimore, Md.
Master Mechanic—N. W. Howson, Mt. Savage, Md.
Master Car Builder—Nathan Binnix, Mt. Savage, Md.
Roadmaster—O. C. Deffenbaugh, Mt. Savage, Md.

CUMBERLAND COAL & RAILWAY—Gauge, 4-8½. Miles operated, 32. No. of locomotives, 6; passenger cars, 4; freight and miscellaneous cars, 150.
President—John McDougall, P. O. Box 1294, Montreal, Can.
Vice President—R. Cowans, Montreal.
Managing Director—R. G. Leckie, Spring Hill Mines, Nova Scotia.
Superintendent and Engineer—J. T. Morkill, Parrsboro, Nova Scotia.
Secretary—J. R. Cowans, P. O. Box 1294, Montreal.
Traffic Manager and Purchasing Agent—J. G. Aikman, Parrsboro, Nova Scotia.
Master Mechanic—Alex. Dick, Spring Hill Mines, Nova Scotia.

CUMBERLAND VALLEY—Gauge, 4-9. Miles operated, 125. No. of locomotives, 29; passenger cars, 39; freight and miscellaneous cars, 470.
President—Thomas B. Kennedy, Chambersburg, Pa.
Vice President—Hon. John Stewart, Chambersburg, Pa.
Superintendent—J. F. Boyd, Chambersburg, Pa.
Engineer—Chauncy Ives, Chambersburg, Pa.
Secretary and Treasurer—E. M. Biddle, Carlisle, Pa.
Auditor—W. L. Ritchey, Chambersburg, Pa.
General Ticket Agent—A. H. McCulloh, Chambersburg, Pa.
General Freight Agent—A. L. Langdon, Chambersburg, Pa.
Master Mechanic—A. S. Hull, Chambersburg Pa.
Foreman of Car Repairs—Casper Wicke, Chambersburg, Pa.
Foreman Car Painters—Geo. W. Pensinger, Chambersburg, Pa.
Road Master—Samuel M. Howard, Chambersburg, Pa.

DANBURY & NORWALK—(and two branches)—Gauge, 4-8½. Miles operated, 37. No. of locomotives, 7; passenger cars, 15; freight and miscellaneous cars, 100.
President—F. St. John Lockwood, Norwalk, Conn.
Vice President—E. Tweedy, Norwalk, Conn.
Superintendent—C. M. Crawford, South Norwalk, Conn.
Secretary, Treasurer and Gen'l Ticket Agent—Harvey Williams, Danbury, Ct.

DANVILLE & NEW RIVER—Gauge, 3. Miles operated, 75. No. of locomotives, 5; passenger cars, 5; freight and miscellaneous cars, 53.
President and General Superintendent—W. T. Sutherlin, Danville, Va.
Secretary and Treasurer—George K. Griggs, Danville, Va.
Assistant General Superintendent—J. P. Nelson, Danville, Va.
Chief Engineer—S. F. Adams, Stuart, Va.
Master Mechanic—M. T. Whittaker, Danville, Va.
Roadmaster—A. Wayland, Danville, Va.

DANVILLE & ST. LOUIS—Gauge, 4-8½. (Building).
President—Sidney A. Stevens, Chicago.
Chief Engineer—Chas. H. Nash, 79 Dearborn st., Chicago.
Treasurer—Robert Boyd, 143 Randolph st., Chicago.

DANVILLE, MOCKSVILLE & SOUTHWESTERN—Gauge, 3. (Under construction.)
President—Thos. R. Sharp, 115 Broadway, New York.
Vice President and Treasurer—Smith M. Evans, Leaksville, S. C.
General Superintendent, Passenger Ticket, Freight and Purchasing Agent—H. M. Shivler, Leaksville, N. C.
Secretary and Treasurer—E. C. Winstanley, 115 Broadway, New York.

DANVILLE, OLNEY & OHIO RIVER—Gauge, 4-8½. Miles operated, 109. No. of locomotives, 4; passenger cars, 2; freight and miscellaneous cars, 30.
President—Parker C. Chandler, Boston, Mass.
General Manager and Receiver—Chas. Howard, Danville, Ill.
Trainmaster—S. P. Hare, Danville, Ill.
Secretary—W. H. Brown, Kansas, Ill.
Treasurer—Chas. A. Hovey, Boston, Mass.
Auditor—Thos. L. Hallworth, Danville, Ill.
General Passenger, Ticket and Freight Agent—W. B. Dodds, Jr., Danville, Ill.
Master Mechanic—W. A. Bell, Kansas, Ill.
Superintendent of Maintenance of Way—C. R. Harris, Olney, Ill.

DELAWARE & HUDSON CANAL COMPANY—(Operating Albany & Susquehanna, Rensselaer & Saratoga and New York & Canada Railroads)—Gauge, 4-8½. Miles operated, 600. No. of locomotives, 180; passenger cars, 151; Freight and miscellaneous cars, 10,648.
President—Thos. Dickson, New York Coal & Iron Exchange, New York.
Vice President—R. M. Olyphant, New York Coal & Iron Exchange, New York.
General Manager and Purchasing Agent—C. F. Young, Honesdale, Pa.
Assistant to General Manager—H. G. Young, Albany, N. Y.
Chief Engineer—C. W. Wentz, Albany, N. Y.
Secretary—J. W. Sprong, Albany, N. Y.
Treasurer—J. C. Hartt, New York Coal & Iron Exchange, New York.
Auditor—R. A. Henry, New York Coal & Iron Exchange, New York.
General Passenger and Ticket Agent—D. M. Kendrick, Albany, N. Y.
General Baggage Agent—C. S. Pease, Albany, N. Y.
General Freight Agent—H. S. Marcy, Albany, N. Y.
Division Superintendents—C. D. Hammond, Albany, N. Y.; Theodore Voorhees, Troy, N. Y.; R. Manville, Carbondale, Pa.
Superintendent Machinery—R. C. Blackall, Albany, N. Y.
Master Mechanics—Thomas Howard, Oneonta, N. Y.; J. L. Corey, Green Island, N. Y.; S. H. Dotterer, Carbondale, Pa.
Master Car Builders—J. R. Skinner, Oneonta, N. Y.; Chr. Korner, Green Island, N. Y.; T. Orchard, Carbondale, Pa.
Master Car Painter—S. F. Lanehart, Green Island, N. Y.
Roadmaster—Michael Dorsey, Albany, N. Y.

DELAWARE, LACKAWANNA & WESTERN—Gauge, 4-8½. Miles operated, 1,865.15. No. of locomotives, 475; passenger cars, 360; freight and miscellaneous cars, 33,155.
President—Samuel Sloan, 26 Exchange place, New York.
Vice President—Percy C. Pyne, New York.
General Superintendent—Wm. F. Halstead, Scranton, Pa.
Chief Engineer—James Archibald, Scranton, Pa.
Division Engineer—Wm. Unruh, Hoboken, N. J.
Secretary and Auditor—Fred. F. Chambers, 26 Exchange place, New York.
Treasurer—Frederick H. Gibbens, 26 Exchange place, New York.
General Passenger Agent—Wm. F. Holwill, 26 Exchange place, New York.
General Baggage Agent—G. E. Zippell, Hoboken, N. J.
General Freight Agent—B. A. Hegeman, 26 Exchange place, New York.
Assistant General Freight Ag't—Wm. S. Sloan, 26 Exchange place, New York.
Purchasing Agent—G. W. B. Cushing, 26 Exchange place, New York.
Lumber and Oil Agent—W. D. Hager, 26 Exchange place, New York.
Master Mechanic—Walter Dawson, Scranton, Pa.

Division Master Mechanics—W. H, Lewis, Hoboken, N. J.; C. Graham, Kingston, Pa.; Thos. Thatcher, Utica, N. Y.; Jas Buchanan, Syracuse, N Y; Chas. Graham, Buffalo, N. Y.
Master Car Builder—Robert M'Kenna, Scranton, Pa.
Division Master Car Builder—J. W. Baker, Dover, N. J.
Foreman Car Repairs—Geo. Faber, Buffalo, N. Y.
Foreman Paint Shop—James Runyon, Scranton, Pa.
Superintendents Bridges and Buildings—S. Griffith, Hoboken, N. J.: E. H. Griffin, Scranton, Pa.
Division Superintendents—A. Reasoner, Morris & Essex Division, Hoboken, N. J.; W. B. Phelps, O. & S. Division, Oswego, N. Y.; W. K. Niver, S. B. & N. Y. R., Syracuse, N. Y.; W. R. Humphrey, Cayuga Division, Ithaca, N. Y.; A. C. Salisbury, Utica Division, (Assistant) Utica, N. Y.; F. A. Seabert, Buffalo Division, (Assistant) Buffalo, N. Y.
Roadmasters—J. Neafie, Boonton, N J.; A. Babcock, Washington, N. J.; P. C. Dunn, Buffalo; P. H. McKeon, Leicester, N. Y.; Jas. Wynne, Elmira, N. Y.; I. H. Foster, Binghamton, N. Y.: Ira Griffin, Kingston, Pa.; Philip Lyons, Stroudsburg, Pa.; David Bryant, Waterville, N. Y.

DELAWARE, MARYLAND & VIRGINIA—Gauge, 4-8½. Miles operated, 108. No. of locomotives, 8; passenger cars, 11; freight and miscellaneous cars 161.
President—N. L. McCready, New York.
Vice President and Secretary—W. H. Stanford, 235 West street, New York.
Superintendent—Thos. Groom, Lewes, Del.
Chief Engineer—John L. Mapes, Berlin, Md.
Treasurer—D. H. Houston, Lewes, Del.
Auditor—H. S. Marshall, Lewes, Del.
Traffic Manager—A. Brown, Lewes, Del.
Master Mechanic—Wm. G. Grier, Lewes, Del.
Roadmasters—D. Murphy, Milford, Del; D. C. Lekites, Ellendale, Del.; Edw. Chase, Georgetown, Del.; Mitchell Warren, Lewes, Del.; C. Fleetwood, Georgetown, Del.; G. Fleetwood, Frankford, Del.

DELAWARE RIVER—Gauge, 4-8½. Miles operated, 20. No. of locomotives, 3; passenger cars, 5; freight and miscellaneous cars, 4.
President—Wm. S. Conner, Woodbury, N. J.
General Sup't and Purchasing Agent—E. H, Green, Pedericktown, N. J.
Secretary and Treasurer—S. T. Miller, Paulsboro, N. J.
Auditor—Geo. W. Reed, Paulsboro, N. J.

DENVER & NEW ORLEANS—Gauge, 4-8½. Miles operated, 137. No. of locomotives, 8; passenger cars, 6; freight and miscellaneous cars. 265.
President—Hon. John Evans, Denver, Col.
Vice President—J. S. Brown, Denver, Col.
General Manager and Purchasing Agent—C. W. Fisher, Denver, Col.
Chief Engineer—P. F. Barr, Denver, Col.
Secretary and Auditor—Charles Wheeler, Denver. Col.
Traffic Manager—W. H. Price, Denver, Col.
Master Mechanic—Jas. H. Kirk, Denver, Col.
Roadmaster—H. S. Goodwin, Denver.

DENVER & RIO GRANDE—Gauge, 3; 120 miles both broad and narrow. Miles operated, 1,662·9. No. of locomotives, 239; passenger cars, 212; freight and miscellaneous cars, 5,894.
President—Frederick Lovejoy, 47 William st., New York.
First Vice President—Adolph Engler, 47 William st., New York.
Second Vice President and General Manager—D. C. Dodge, Denver, Col.
General Superintendent Colorado and New Mexico Lines—R. B. Cable, Denver.
Chief Engineer—J. A. McMurtrie, Denver.
Resident Engineer—F. P. King, South Pueblo, Col.
Division Engineers—M, H. Rogers, South Pueblo, Col.; N. J. Chandler, Salt Lake City, Utah; Samuel McMurtrie, Bridgeport, Col.
Secretary—Wm. Wagner, 47 William st., New York.
Treasurer—W. M. Spackman, 47 William st., New York.
Comptroller—John Dougherty, 47 William st., New York.
Auditor—E. R. Murphy, Denver.
Cashier—J. W. Gilluly, Denver.
General Passenger and Ticket Agent—F. C. Nims, Denver.
General Baggage Agent—L. J. Kraemer, Denver.
General Freight Agent—A. S. Hughes, Denver.
Purchasing Agent—C. M. Hobbs, Denver.
Fuel Agent—S. O. Snyder, Denver.
Superintendent Motive Power and Machinery—N. W. Sample, Denver.
Division Master Mechanics—J. R. Groves, Denver; John Kelker, Pueblo, Col.; Q. Lamplaugh, Alamosa, Col.; A. Jones, Salida, Col.; C S. Smith, Salt Lake City, Utah.
Superintendent Telegraph—B. F. Woodward, Denver.
Master Car Builder—N. W. Sample, Denver.
Superintendent Express—G. W. Kramer, Denver.
Division Superintendents—W. W. Borst, First Div., South Pueblo, Col.; Cole Lydon, Second Division, Alamosa, Col.; G. W. Cook, Third Division, Leadville, Col.; R. M. Ridgway, Fourth Division, Salida, Col.: W. H. Bancroft, Utah Division, Salt Lake City, Utah.

GEO. A. SMITH,

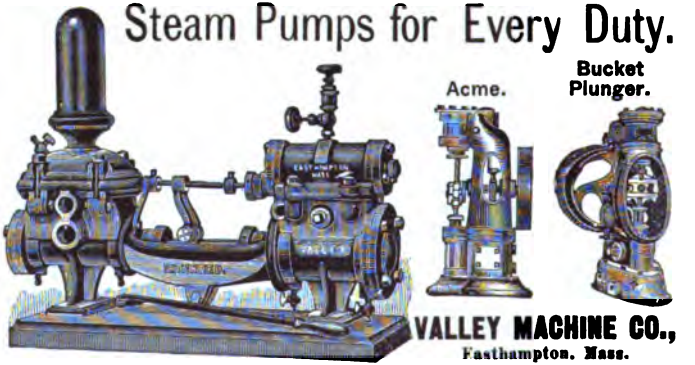
Successor to Smith & Rady,

RAILWAY, MACHINISTS', FURNACE, MINERS, COTTON AND SAW-MILL SUPPLIES,

1419 MAIN STREET,

Richmond, - - - - Virginia.

Full Stock Always Carried in Store.



CARY, OGDEN & PARKER,

COLOR MAKERS AND PAINT MANUFACTURERS,

CHICAGO.

PARKER'S CEMENT PAINT.

General Roadmaster—A. Osborn, South Pueblo, Col.
Roadmasters—C. Selby, Denver, Col.; D. Sweeny, Canyon City, Col.; T. Fitzgerald, Cuchara, Col.; W. B. Scott, La Veta, Col.; T. E. Brown, Alamosa, Col.; O. Tunney, Chama, N. M.; C. Hickey, Durango, Col.; John Sweeney, Buena Vista, Col; Thomas Lee, Salida, Col.; John Eagan, Gunnison, Col.; J. O. Boyle, Cimmaron, Col.; J. H. Vane, Pleasant Valley, Utah; James Hamill, Salt Lake City, Utah.

DENVER, UTAH & PACIFIC—Gauge, 3. Miles operated, 24. No. of locomotives, 2; passenger cars, 1; freight and miscellaneous cars, 43.
President—George M. Miller, corner Wall and Broad sts., New York.
Vice President—David S. Babcock, corner Wall and Broad sts., New York.
Superintendent—L. M. Fouts, Denver, Col.
Secretary—George W. Carr, New York.
Treasurer—Edward Morgan, New York.
Auditor—E. R. Standish, Denver, Col.

DES MOINES & FORT DODGE—Gauge, 4-8½. Miles operated, 144. No. of locomotives, 15; passenger cars, 4; freight and miscellaneous cars, 231.
President and Treasurer—Charles E. Whitehead, 61 Wall street, New York.
Vice President—Charles Dana, New York.
Superintendent, Purchasing Agent and Superintendent Motive Power and Machinery—Charles N. Gilmore, Des Moines, Iowa.
Chief Engineer—James Carss, Des Moines, Iowa.
Auditor—Wm. C. Mathews, Des Moines, Iowa.
General Passenger, Ticket and Freight Agent—George W. Ogilvie, Des Moines.
Master Mechanic and Foreman of Locomotive Repairs—John McGrayel, Grand Junction, Iowa.
Master Car Builder and Painter—E. A. Avery, Grand Junction, Iowa.
Roadmaster—H. McIntyre, Grand Junction, Iowa.

DES MOINES, OSCEOLA & SOUTHERN—Gauge, 3. Miles operated, 85. No. of locomotives, 6; passenger cars, 4; freight and miscellaneous cars, 200.
Vice President—B. L. Harding, Des Moines, Ia.
General Superintendent—Henry Stivers, Osceola, Ia.
Chief Engineer—A. A. Rice, Osceola, Ia.
Secretary and Treasurer—Aaron Stivers, Osceola, Ia.
Auditor—F. G. Jones, Osceola, Ia.
General Ticket and Freight Agent—F. W. Armstrong, Osceola, Ia.
Master Mechanic—L. D. Berry, Osceola, Ia.
Master of Car Repairs—Elias Tonet, Osceola, Ia.
Superintendent of Bridges—J. Thomas, Osceola, Ia.
Roadmaster—J. Houston, Osceola, Ia.

DETROIT, MACKINAC & MARQUETTE—Gauge, 4-8½. Miles operated, 151. No. of locomotives, 16; passenger cars, 11; freight and miscel'us cars, 1,100.
President—James McMillan, Detroit, Mich.
General Superintendent and Purchasing Agent—D. McCool, Marquette, Mich.
Secretary and Treasurer—Hugh McMillan, Detroit, Mich.
Auditor—E. W. Allen, Marquette, Mich.
General Passenger and Freight Agent—Frank Milligan, Marquette, Mich.
Master Mechanic—J. B. Wilson, Marquette, Mich.
Roadmaster—C. H. Watson, Marquette, Mich.

DETROIT, GRAND HAVEN & MILWAUKEE—Gauge, 4-8½. Miles operated, 189. No. of locomotives, 41; passenger cars, 22; freight and miscellaneous cars, 875.
President—Joseph Hickson, Montreal, Can.
Manager—G. R. Nash, Detroit, Mich.
Superintendent—W. J. Morgan, Detroit, Mich.
Chief Engineer—Geo. Masson, Detroit, Mich.
Secretary and Treasurer—J. H. Muir, Detroit, Mich.
Auditor—M. J. Clark, Detroit, Mich.
General Passenger and Freight Agent—T. Tandy, Detroit, Mich.
Purchasing Agent—J. S. Lorimer, Detroit, Mich.
Mechanical Superintendent—H. Roberts, Detroit, Mich.
Foremen of Locomotive and Car Repairs—W. Bleasdell and J. Booth, Detroit.
Master Car Painters—A. Rooks, Detroit Mich.; E. C. Storr, Detroit, Mich.
Roadmasters—T. Daniels, Detroit, Mich.; D. Ross, Pontiac, Mich.; J. McKay, Grand Rapids, Mich.
Bridge Inspector—J. Midwinter, Grand Rapids, Mich.

DETROIT, LANSING & NORTHERN—Gauge, 4-8½. Miles operated, 225.57. No. of locomotives, 34; passenger cars, 32; freight and miscel's, cars, 912.
President—Alpheus Hardy, Boston, Mass.
General Manager—J. B. Mulliken, Detroit, Mch.
General Superintendent—Thos. M. Fish, Ionia, Mich.
Chief Engineer—J. J. McVean, Ionia, Mich.
Secretary and Treasurer—Chas. Merriam, Boston.
Assistant Treasurer—J. E. Howard, Detroit, Mich.
Auditor and General Ticket Agent—J. F. Reekie, Detroit, Mich.
General Passenger and Freight Agent—W. A. Carpenter, Detroit Mich.
Purchasing Agent—Allan Bourn, Detroit, Mich.
Master Mechanic and Car Builder—G. C. Watrous, Ionia, Mich.
Master Car Painter—A. P. Sweet, Ionia, Mich.
General Roadmaster—John Doyle, Ionia, Mich.
Assistant Roadmasters—B. Rustine and Geo. Light, Ionia, Mich.

DUBUQUE & DAKOTA—Gauge, 4-8½. Miles operated, 64. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 52.
President—G. H. Candee, New York.
General Manager and Treasurer—C. H. Booth, Dubuque, Iowa.
Superintendent and Chief Engineer—A. C. Goodrich, Hampton, Iowa.
Treasurer—C. H. Booth, Dubuque.
Auditor and General Passenger Agent—W. S. Couch, Dubuque, Iowa.
Master Mechanic—H. G. Rust, Waverly, Iowa.
Roadmaster—D. O'Leary, Waverly, Iowa.

DUNKIRK, ALLEGHENY VALLEY & PITTSBURGH—Gauge, 4-8½. Miles operated, 91. No. of locomotives, 12; passenger cars, 8; freight and miscellaneous cars, 90.
President—E. D. Worcester, Grand Central Depot, New York.
Gen'l Sup't, Passenger, Ticket and Freight Agent—D. Thayer, Dunkirk, N. Y.
Assistant Superintendent—Chas. A. Clute, Dunkirk, N. Y.
Secretary and Treasurer—D. W. Pardee, Grand Central Depot, New York.
Auditor—Wm. M. Lester, Dunkirk, N. Y.
Purchasing Agent—R. C. Moore, Grand Central Depot, New York.
Master Mechanic, Car Builder and Painter—J. C. Haggett, Dunkirk, N. Y.
Roadmaster—J. P. Irwin, Dunkirk.

EAST ALABAMA—Gauge 5. Miles operated, 27½. No. of locomotives, 3; passenger cars, 3; freight and miscellaneous cars, 11.
President—B. Perkins, 41 Wall st., New York.
General Superintendent and Purchasing Agent—W. W. Barnes, Opelika, Ala.
Secretary—Richard Irvin, Jr., 41 Wall st., New York.
Treasurer—Osgood Welsh, 41 Wall st., New York.
Roadmaster—J. D. White, Opelika, Ala.

EAST AND WEST OF ALABAMA—Gauge, 3. Miles operated, 84. No of locomotives, 8; passenger cars, 3; freight and miscellaneous cars, 71.
President—E. F. Browning, 408 Broome st., New York.
Vice President—Amos G. West, Cedartown, Ga.
General Manager—John Postell, Cedartown, Ga.
Chief Engineer—Thos. A. E. Evans, Cedartown, Ga.
Division Engineer—George D. Harris, Cedartown, Ga.
Treasurer—J. Hull Browning, 408 Broome st., New York.
Auditor—R. H. Cooper, Cedartown, Ga.
General Passenger, Ticket and Freight Agent—G. T. Kershaw, Cedartown, Ga.
Purchasing Agent—J. L. Hurst, Cedartown, Ga.
Master Mechanic—C. F. West, Cedartown, Ga.
Roadmaster—S. T. Cantrell, Cartersville, Ga.

EAST BROAD TOP—Gauge, 3. Miles operated, 30. No. of locomotives, 7; passenger cars, 4; freight and miscellaneous cars, 260.
President—Wm. A. Ingham, 320 Walnut street, Philadelphia.
Vice President— Edward Roberts, Jr., 320 Walnut street, Philadelphia.
General Superintendent—A. W. Sims, Orbisonia, Pa.
Secretary and Treasurer—Wm. Boyd Jacobs, 320 Walnut street, Philadelphia.
Master Mechanic—A. W. Greenwood, Orbisonia, Pa.
Roadmaster—James G. Murphy, Orbisonia, Pa.

EASTERN—Gauge, 4-8½. Miles operated, 283½. No. of locomotives, 102; passenger cars, 216; freight and miscellaneous cars, 2,057.
President—Geo. E. B. Jackson, Boston.
General Manager—Payson Tucker, Boston.
Master of Transportation—D. W. Sanborn, Boston.
Treasurer—N. G. Chapin, Boston.
Auditor—W. J Hobbs, Boston.
General Passenger and Ticket Agent—Lucius Tuttle, Boston.
General Freight Agent—W. F. Berry, Boston.
Purchasing Agent—G. F. Hurd, Boston.
Master Car Builder and Master of Rolling Stock—Amos Pilsbury, East Boston, Mass.; J. D. Billings, Assistant, Salem, Mass.
Master Car Painters—Geo. H. Worrell, Salem, Mass.; Wm. B. Getchell, Boston.
Division Sup't—J. W. Sanborn (Conway Division), Wolfboro Junction, N. H.
Master of Maintenance of Way—H. Bissell, Salem, Mass.
Roadmasters—A. C. Stevens, Salem, Mass.; D. L. Snow, Biddeford, Me.; E. Leavitt, Wolfboro Junction, N. H.

EASTERN KENTUCKY—Gauge, 4-8½; Miles operated, 34. No. of locomotives, 4; passenger cars, 3; freight and miscellaneous cars, 143.
President—E. V. R. Thayer, Boston, Mass.
Vice President, General Manager and Purchasing Agent—H. W. Bates, Greenup, Ky.
Chief Engineer—H. R. Weeks, Greenup, Ky.
Secretary and Treasurer—Richard Sullivan, Boston.
Master Mechanic—A. D. Crawford, Hunnewell, Ky.
Roadmaster—Robert Leedy, Grayson, Ky.

EASTERN SHORE—Gauge, 4-8½. Miles operated, 38. No. of locomotives, 3; passenger cars, 2; freight and miscellaneous cars, 8.
President—S. M. Felton, Thurlow, Pa.
General Superintendent—W. Thomson, Wilmington, Del.

Secretary and Treasurer—W. J. Brittingham, Princess Anne, Md.
General Passenger, Ticket and Freight Agent—C.C. Waller, Princess Anne, Md.
Master Mechanic—F. Strattner, Crisfield, Md.

EAST ST. LOUIS & CARONDELET—Gauge, 4-9. Miles operated, 13.5. No. of locomotives, 5; fre ght and miscellaneous cars, 31.
President—T. D. Messler, Pittsburgh, Pa.
General Superintendent—Joseph Hill, St. Louis, Mo.
Secretary—J. B. Bowman, East St. Louis, Ill.
Treasurer—J. E. Davidson, Pittsburgh, Pa.
Cashier—G. K. Thomas, East St. Louis, Ill.

EAST TENNESSEE & WESTERN NORTH CAROLINA—Gauge, 3. Miles operated, 34. No. of locomotives, 3; passenger cars, 4; freight and miscellaneous cars, 72.
President—Gen. A. Pardee, Jr., 237 S. Third st., Philadelphia.
General Superintendent, Chief Engineer and Purchasing Agent—Thos. E. Matson, Elizabethton, Tenn.
Secretary and Treasurer—John S. Wise, 237 S. Third st., Philadelphia.
Auditor—Wallace Hahn, Elizabethton, Tenn.

EAST TENNESSEE, VIRGINIA & GEORGIA—Gauge, 5. Miles operated (including M. & C. leased line), 1,431. No. of locomotives, 214; passenger cars, 138; freight and miscellaneous cars, 4,850.
President—Samuel Thomas, 110 Broadway, New York.
Vice President and General Manager—Henry Fink, Knoxville, Tenn.
General Superintendent and Chief Engineer—John F. O'Brien, Knoxville.
Assistant Chief Engineer—Chas. H. Waring, Knoxville.
Division Engineers—J. W. Goodwin, Knoxville; Martin Palmer, Macon, Ga.
Secretary—L. M. Schwan, 110 Broadway, New York.
Treasurer—Jas. G. Mitchell, Knoxville.
Treasurer M. & C. Divison—H. C. Wilton, Memphis, Tenn.
Auditor—T. D. Flippen, Knoxville.
Auditor M. & C. Division—T. M. Barker, Memphis, Tenn.
General Passenger and Ticket Agent—A. Pope, Knoxville.
General Freight Agent—J. R. Ogden, Knoxville.
Purchasing Agent—J. E. Wilcox, Knoxville.
Master Mechanics—B. J. Sitton, Knoxville; M. J. Rogers, Atlanta, Ga.; Simon Gay, Selma, Ala.; H. N. Burford, Memphis, Tenn.
Foreman of Locomotive Repairs—Joseph Fisk, Knoxville.
Master Car Builders—Jos. Armbruster, Knoxville; W. W. Pierce, Selma, Ala.
Foreman of Car Repairs—R. T. Hayes, Knoxville.
Master Car Painter—E. S. Walker, Knoxville.
Division Superintendents—F. K. Huger, Knoxville; J. M. Bridges, Selma, Ala.; J. W. Fry, Atlanta, Ga.; J. E. Mallory, Macon, Ga.; R. B. Pegram, Memphis, Tenn.
Roadmasters—J. E. Platt, Morristown, Tenn.; J. H. Loyall, Knoxville; J. H. Justice, Riceville, Tenn.; J. H. Satterwhite, Atlanta, Ga.; G. W. Paine, Selma, Ala.; Jas. Gallion, Selma, Ala.; John W. Hawk, Memphis, Tenn.

ELBERTON AIR LINE—Gauge, 3. Miles operated, 50; No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 29.
President—J. H. Jones, Elberton, Ga.
General Manager—A. L. Rives, Richmond, Va.
General Superintendent—E. Berkeley, Atlanta, Ga.
Treasurer—W. E. Turner, Richmond, Va.
Auditor—E. A. Barber, Richmond, Va.
Fuel Agent, Master Mechanic, Car Builder, Car Painter and Roadmaster—James Wilson, Toccoa, Ga.

ELGIN—Gauge, 4-8¾. Miles op'ed, 14. No. of locomotives, 1; passenger cars, 1.
General Manager—Chas. A. Hallett, Sussex, N. B.

EUREKA & PALISADE—Gauge, 3. Miles operated, 90. No. of locomotives, 7; passenger cars, 4; freight and miscellaneous cars, 113.
President—Edgar Mills, Eureka, Nev.
General Superintendent and Purchasing Agent—B. Gilman, Eureka, Nev.
Chief Engineer—T. J. Read, Eureka, Nev.
Secretary and Auditor—E. F. Oatman, Eureka, Nev.
Treasurer—National Bank of D. O. Mills & Co., Sacramento, Cal.
General Passenger, Freight and Ticket Agent, J. L. Fast, Palisade, Nev.
Master Mechanic—J. M. Crawford, Palisade, Nev.
Master Car Builder—A. S. Longley, Palisade, Nev.
Foreman Car Painter—Seth Ladd, Palisade, Nev.

EUREKA SPRINGS—Gauge, 4-8½. Miles operated, 19. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 7.
President—Richard C. Kerens, St. Louis, Mo.
Vice President and General Manager—Powell Clayton, Eureka Springs, Ark.
Secretary—B. Baer, Ft. Smith, Ark.
Treasurer—Logan H. Roots, Little Rock, Ark.
Auditor—A. H. Foote, Eureka Springs, Ark.
Purchasing Agent—C. H. Smith, St. Louis, Mo.
Master Mechanic—J. B. Obenshain, Eureka Springs, Ark.
Roadmaster—Rob't Holland, Eureka Springs, Ark.

THE COWELL PLATFORM & COUPLING CO.,

CLEVELAND, O.

HAS THE SAFEST, MOST COMFORTABLE & ECONOMICAL DEVICE IN RAILROADING.

Continuous Floor Between Cars; Couples and Uncouples Easily on Any Curve.

Used on Flint & P. M. R. R., U. I. & Elmira, Cincinnati Southern, C. N. O. & T. Pacific, Western & Atlantic, N. Y. Central, Etc., Etc.

F. W. DEVOE & CO.,

MANUFACTURERS OF

COACH AND CAR COLORS,

FINE RAILWAY VARNISHES and JAPANS.

At the National Exposition of Railway Appliances, held in Chicago in June, 1883, they received

The First Premium, a GOLD MEDAL, for the BEST CAR BODY COLORS; The First Premium, a SILVER MEDAL, for the BEST BRUSHES; and, also A SILVER MEDAL, the First Premium, for

OTHER GOODS OF THEIR MANUFACTURE,

Corner of Fulton and William Streets, NEW YORK.

C. G. HUSSEY & CO., COPPER AND BRASS

ROLLED INTO

Pittsburgh, Pa., **SHEETS and BOLTS** OF ALL SIZES AND SHAPES.

EVANSVILLE & TERRE HAUTE—Gauge, 4-9. Miles operated, 147.2. No. of locomotives, 26; passenger cars, 13; freight and miscellaneous cars, 1,128.
President and General Superintendent—D. J. Mackey, Evansville, Ind.
Chief Engineer—C. A. Slayback, Princeton, Ind.
Secretary and Treasurer—W. D. Ewing Evansville, Ind.
Auditor—E. B. Morgan, Evansville, Ind.
General Passenger, Ticket and Freight Agent—G. T. Grammar, Evansville, Ind.
Master Mechanic—John Torrence, Evansville, Ind.
Master Car Builder—Joseph Stiker, Evansville, Ind.
Master Car Painter—James Thomson, Evansville, Ind.
Roadmaster—W. L. Robbins. Evansville, Ind.

FALL BROOK COAL COMPANY—Operating the Jersey Shore, Pine Creek & Buffalo R., Williamsport, Pa., to Stokesdale, Pa., 78 miles; Corning, Cowanesque & Antrim R., Corning, N. Y., to Antrim, Pa., 53 miles; Cowanesque Branch, Lawrenceville, Pa., to Harrison Valley, Pa., 32 miles; Syracuse, Geneva & Corning R., Corning, N. Y., to Geneva, N. Y., 58 miles; Geneva & Lyons R., Geneva, N. Y., to Lyons, N. Y., 15 miles. Gauge, 4-8½. Total miles operated, 236. No. of locomotives, 45; passenger cars, 18; freight and miscellaneous cars, 1,700.
President—Geo. J. Magee, Corning. N. Y.
Vice President—John Lang, Corning, N. Y.
General Superintendent—A. H. Gorton, Corning, N. Y.
Assistant Superintendent—W. E. Gorton, Corning, N. Y.
Chief Engineer—Anton Hardt, Corning, N. Y.
Assistant Chief Engineer—Henry Herden, Corning, N. Y.
Secretary and Treasurer—John Lang, Corning, N. Y.
Auditor—Wm. Nicholson, Corning, N. Y.
General Passenger, Ticket, Baggage and Freight Agent—H. A. Horning, Corning, N. Y.
Purchasing Agent—W. H. Chaphe, Corning, N. Y.
Master Mechanic—O. C. Patchell, Corning, N. Y.
Foreman of Locomotive Repairs—Henry Wheeler, Corning, Pa.
Master Car Builder—C. J. Butler, Corning, N. Y.
Master Car Painter—Wm. Brady, Corning, N. Y.
Road Masters—Michael Clancy, Corning, N. Y.: Z. W. Baker, John Smith, Wellsboro, Pa.

FERRO CARRIL NACIONAL DEL ESTMO DE TEHUANTEPEC—Gauge, 4-8½. Kilometers operated, 79. No. of locomotives, 5; freight and miscellaneous cars, 30.
Commissionario—Don Delfin Sanchez, City of Mexico.
General Manager—Don Juan Cobo y Sierra, Tehuantepec, Mexico.
Jefe del Commission de Inginieros—Alezandro Preito, Tehuantepec, Mexico.
Assistant Engineer—M. Mirraflores, Tehuantepec, Mex.
Secretary, Treasurer and Auditor—Jose Ma Sanchez, City of Mexico.
Master Mechanic—Pedro Unanie, Tehuantepec, Mex.

FITCHBURG—Gauge, 4-8½. Miles operated, 189. No. of locomotives, 98; passenger cars, 96; freight and miscellaneous cars, 3,328.
President—E B. Phillips, Boston, Mass.
General Superintendent—John Adams, Boston.
Asst. Superintendent and Chief Engineer—E. K. Turner, Fitchburg, Mass.
Corporation Clerk—Thomas Whittemore, Boston.
Treasurer—M. D. Benson, Boston.
Chief Clerk and Auditor—H. F. Whitcomb, Boston.
Traffic Manager—John Whitmore, Boston.
General Passenger Agent—J. R. Watson, Boston.
General Ticket Agent—F. O. Heald, Boston.
General Baggage Agent—A. H. Brown, Boston.
General Freight Agent—C. L. Hartwell, Boston.
Purchasing Agent—F. S. Pratt, Boston.
Supt. Motive Power and Machinery—G. A. Coolidge, Charlestown, Mass.
Asst. Supt. Motive Power and Machinery—W. A. Foster, Fitchburg, Mass.
Master Car Builder—J. W. Marden, Charlestown, Mass.
Asst. Master Car Builder—C. A. Goodrich, Fitchburg, Mass.
Roadmaster—L. J. Spaulding, Ayer, Mass. Assistant Roadmasters—G. W. Bishop, Athol, Mass.; T. J. Dickey, Charlestown, Mass.

FLINT & PERE MARQUETTE—Gauge, 4-8½. Miles operated, 365. No. of locomotives, 70; passenger cars, 70; freight and miscellaneous cars, 2,400.
President—Wm. W. Crapo, New Bedford, Mass.
Vice President, Gen'l Manager and Treas'r—H. C. Potter, East Saginaw, Mich.
Assistant General Manager, General Passenger and Ticket Agent—David Edwards, East Saginaw, Mich.
Superintendent—Sanford Keeler, East Saginaw, Mich.
Chief Engineer—Wm. B. Sears, East Saginaw, Mich.
Solicitor—Wm. L. Webber, East Saginaw, Mich.
Secretary—H. C. Potter, Jr., East Saginaw, Mich.
Auditor—Gilbert W. Ledlie, East Saginaw, Mich.
General Baggage Agent—L. H. Plues, East Saginaw. Mich.
Assistant General Freight Agent—Arthur Patriarche, East Saginaw, Mich.
Purchasing Agent—Geo. G. Cook, East Saginaw, Mich.
Master Mechanic—T. J. Hatswell, East Saginaw, Mich.

NATIONAL TUBE WORKS CO.

BOSTON, 8 Pemberton Square. **NEW YORK, 104 John Street.** **CHICAGO, 159 Lake Street.**

Works, McKEESPORT, PA.

LAP WELDED WROUGHT IRON TUBES AND PIPE.

Special SEMI-STEEL TUBES for Locomotives.

ENAMELED PIPE, Proof Against Rust.

MACK'S PATENT INJECTOR, with Interchangeable Parts.

FAN AND EXHAUST BLOWERS.

SPECIAL PIPE AND JOINTS FOR WATER WORKS.

Master Car Builder—R. McPherson, East Saginaw, Mich.
Master Car Painter—Daniel Herbage, East Saginaw, Mich.
Foreman Car Painters—Wm. Sutton, East Saginaw, Mich.
Division Superintendents—M. V. Meredith, Western Division; W. F. Potter, Eastern Division, East Saginaw, Mich.
Roadmasters—Geo. M. Brown, East Saginaw, Mich. Foremen—Anthony Rose, Monroe, Mich.; Andrew Germer, Flint, Mich.; Nathan Killen, East Saginaw, Mich.; John Ross, Clare, Mich.; Nicholas Ungers, Ludington, Mich.

FLORIDA CENTRAL & WESTERN—(See Florida Transit & Peninsular.)

FLORIDA TRANSIT & PENINSULAR; FLORIDA CENTRAL & WESTERN; FERNANDINA & JACKSONVILLE—Gauge, 4-8½. Miles operated, 462. No. of locomotives, 31; passenger cars, 45; freight and miscellaneous cars, 351.
President—B. S. Henning, 35 Wall st., N. Y.
Vice President and Secretary—C. D. Willard, Washington, D. C.
General Superintendent—D. E. Maxwell, Fernandina, Fla.
Chief Engineer—J. M. Bushnell, Fernandina, Fla.
Treasurer—L. M. Lawson, 102 Broadway, N. Y.
Auditor—Thos. W. Roby, Fernandina, Fla.
General Passenger and Ticket Agent—A. O. MacDowell, Fernandina, Fla.
General Freight Agent—F. B. Papy, Fernandina, Fla.
Purchasing Agent—John Hedges, Fernandina, Fla.
Master Mechanic—R. V. Dahoney, Fernandina, Fla.
Roadmasters—Chandler Martin, Fernandina, Fla.; W. W. Lee, Jacksonville, Fla.; Thos. Whitworth, Tallahassee, Fla.

FLORIDA SOUTHERN—Gauge, 3. Miles operated, 110.
President—John W. Candler, Boston, Mass.
Vice President—J. R. Hall, Boston.
General Manager—Sherman Conant, Palatka, Fla.
Superintendent and Purchasing Agent—J. D. Hollister, Palatka, Fla.
Auditor—J. C. Telfer, Palatka, Fla.
General Passenger, Ticket and Freight Agent—H. S. Bass, Palatka, Fla.
Master Mechanic, Car Builder and Painter—M. R. Miller, Palatka, Fla.
Roadmaster—A. L. McFarland, Palatka, Fla.

FONDA, JOHNSTOWN & GLOVERSVILLE—Gauge, 4-8½. Miles operated, 26.17. No. of locomotives, 5; passenger cars, 7; freight and miscellaneous cars, 24.
President—W. J. Heacock, Gloversville, N. Y.
Vice President—D. A. Wells, Johnstown, N. Y.
General Superintendent and Secretary—L. Caten, Gloversville, N. Y.
Treasurer—John McNab, Gloversville, N. Y.
Master Mechanic—G. V. Putman, Gloversville, N. Y.

FORT MADISON & NORTHWESTERN—Gauge, 3. Miles operated, 41. No. of locomotives, 4; passenger cars, 4; freight and miscellaneous cars, 116.
President—John Atlee, Fort Madison, Iowa.
Vice President—Henry Ketchum, New London, Wis.
General Superintendent, Treasurer, Passenger, Ticket, Baggage, Freight, Purchasing and Fuel Agent—S. B. Kenrick, Fort Madison, Iowa.
Chief Engineer and Roadmaster—Charles Harley, Fort Madison, Iowa.
Secretary—E. W. Merrill, Fort Madison, Iowa.
Master Mechanic and Car Builder—J. L. Lamb, Fort Madison, Iowa.

FORT WAYNE, CINCINNATI & LOUISVILLE—Gauge, 4-8½. Miles operated, 133. No. of locomotives, 10; passenger cars, 7; freight and miscellaneous cars, 243.
President—Elijah Smith, Boston, Mass.
General Superintendent—W. W. Worthington, Fort Wayne, Ind.
Secretary and Treasurer—P. W. Smith, Boston, Mass.
Auditor—Charles Hoffman, Fort Wayne, Ind.
General Ticket Agent—Geo. B. Campbell, Fort Wayne, Ind.
General Freight Agent—S. A. Wikel, Fort Wayne, Ind.
Master of Transportation—W. B. Beamer, New Castle, Ind.
Master Mechanic—Theodore H Haberkorn, Fort Wayne, Ind.
Master Car Builder—Wm. Knight, Fort Wayne.
Roadmaster—A. J. Stewart, Bluffton, Ind.

FORT WORTH & DENVER CITY—Gauge, 4-8½. Miles operated, 110. No. of locomotives, 8; passenger cars, 7,
President—Morgan Jones, Fort Worth, Tex.
Vice President—T. W. Pearsall, New York city.
General Superintendent and Purchasing Agent—C. L. Frost, Fort Worth, Tex.
General Passenger and Freight Agent—C. L. Frost, Fort Worth, Tex.
Secretary and Auditor—W. A. Ross, Fort Worth, Tex.
Treasurer—J. T. Granger, New York city.
Master Mechanic—E. M. Alvord, Fort Worth, Tex.
Foreman of Locomotive Repairs—M. R. Kiley, Fort Worth, Tex.
Foreman of Car Repairs—J. S. Butcher, Fort Worth, Tex.
Roadmaster—A. D. Goodenough, Decatur, Tex.

FREDERICKTON—(See New Brunswick.)

CHICAGO SPLICE BAR MILL.

MORRIS SELLERS & CO.,

SOLE PROPRIETORS AND MANUFACTURERS OF THE

CELEBRATED

'Samson Bar.'

OFFICE:

NO. 6 ASHLAND BLOCK,

CHICAGO, - - ILL.

The "SAMSON" is made both in the plain and angle form, fitting any section of rail. They are sold by the pair only, at a price not exceeding that of the ordinary Bar fitting the same section of rail. Each pair of the "SAMSON" will have a guaranteed thickness at the rail joint of not less than one-half inch greater than the ordinary Bars, and at no greater cost per pair. This increased thickness reinforces the joint, making practically a continuous rail. This is the only rail joint in which this effect is attained.

The following Roads are using the "SAMSON BAR" Manufactured by MORRIS SELLERS & CO.:

Atlantic & Pacific.
Atchison, Topeka & Santa Fe.
Atchison Union Depot.
Boston, Barre & Gardner.
Boston, Concord & Montreal.
Burlington, Cedar Rapids & Northern.
Burlington & Northwestern.
Burlington & Southwestern.
Boston, Revere Beach & Lynn.
Chicago & Alton.
Chicago, Burlington & Quincy.
Chi., Clinton, Dubuque & Minnesota.
Chicago & Eastern Illinois.
Chicago & Grand Trunk.
Chicago & Atlantic.
Chi. & Indianapolis Air Line.
Chicago, Iowa & Dakota.
Chicago & Lake Huron.
Chicago & Michigan Lake Shore.
Chicago & Northwestern.
Chicago & Pacific.
Chicago, Pekin & Southwestern.
Chicago, Rock Island & Pacific.
Chicago, St. Louis & Western.
Chi., St. Paul, Minneapolis & Omaha.
Chicago & Western.
Chicago & West Michigan.
Central Railroad of Iowa.
Central Vermont.
Cairo & Vincennes.
Cincinnati & Eastern.
Cincinnati, Hamilton & Dayton.
Cincinnati, Richmond & Ft. Wayne.
Cleve., Col., Cin. & Indianapolis.
Cleveland, Tuscarawas & Wheeling.
Colorado Central.
Concord Railroad of New Hampshire.
Crerar, Adams & Co.
Danville, Olney & Ohio River.
Dayton & Union.
Des Moines & Ft. Dodge.
Detroit, Mackinaw & Marquette.
Denver & Rio Grande.
Evansville & Terre Haute.
Flint & Pere Marquette.
Ft. Wayne, Muncie & Cincinnati.
Fulton County.
Grand Rapids & Indiana.
Green Bay & Minnesota.
Green Bay, Winona & St. Paul.
Hannibal & St. Joseph.
Humeston & Shenandoah.
Illinois Midland.
Indiana, Bloomington & Western.
Indiana, Illinois & Iowa.
Iowa Construction & Railroad Co.
Indianapolis & St. Louis.
Joliet Steel Co.
Kansas City, Ft. Scott & Gulf.
Kansas City, Springfield & Memphis.
Keokuk & Des Moines.
Lake Erie & Western.
Lake Erie & Louisville.
Louisville, New Albany & Chicago.
Lafayette, Muncie & Bloomington.
Lake Shore & Michigan Southern.
Manhattan Elevated R. of New York.
Marquette, Houghton & Ontonagon.
Mississquoi.
Mont Alto.
Michigan Central.
Milwaukee, Lake Shore & Western.
Missouri Pacific.
Minnesota Northern.
Minneapolis & St. Louis.
Montpelier & Wells River.
Nebraska, Topeka, Iola & Memphis.
New York Central & Hudson River.
New London Northern.
Northwestern & Grand Trunk.
Northern of New Hampshire.
Northern Pacific.
Ohio Central.
Old Colony.
Passumpsic.
Paulding & Cecil.
Portland & Ogdensburg.
Peoria, Pekin & Jacksonville.
Pekin, Lincoln & Decatur.
Pittsburgh, Cincinnati & St. Louis.
Port Huron & Northwestern.
Pullman Palace Car Co.
Saginaw Bay & Northwestern.
Saginaw, Tuscola & Huron.
Sherburne & Co., Boston.
Sioux City & Pacific.
St. Albans Iron & Steel Co.
St. Joseph & Denver City.
St. Joseph & Western.
St. Louis Bridge & Tunnel Co.
St. Louis, Hannibal & Keokuk.
St. Louis & Iron Mountain.
St. Louis, Keokuk & Northwestern.
St. Louis & San Francisco.
St. Paul & Duluth.
St. Paul & Eastern Grand Trunk.
St. Paul, Minneapolis & Manitoba.
Sully, Alfred.
Texas Trunk.
Toledo, Ann Arbor & Grand Trunk.
Toledo, Cincinnatti & St. Louis.
Toledo & Indianapolis.
Toledo, Peoria & Warsaw.
Utah Central.
Union Iron & Steel Co.
Union Pacific.
Union Stock Yards Co.
Vandalia & Terre Haute.
Vandalia Line.
Western Air Line Construction Co.
Wisconsin Central.
Wisconsin, Iowa & Nebraska.
Western Railway Construction Co.
Wabash, St. Louis & Pacific.
Sundry parties and corporations.

A total of 5,026,106 splice bars, which for the usual length of rail would fasten 7,139 miles of track. The highest prize of the National Exposition of Railway Appliances, held at Chicago in 1883, was awarded the "SAMSON" as the "Best Fish and Angle Splice Bar."

New England Agents: SHERBURNE & CO., 53 Oliver St., Boston.

MORRIS SELLERS & CO., No. 6 Ashland Block, Chicago.

FREEHOLD & NEW YORK—Gauge, 4-8½. Miles operated, 14 6-10. No. of locomotives, 4; passenger cars, 3; freight and miscellaneous cars, 44.
President—Gen. John S. Schultze, 91 Wall st., N. Y.
Secretary, Treasurer, Superintendent, General Passenger, Ticket, Freight, Purchasing Agent and Master Mechanic—J. E. Ralph, Keyport, Monmouth county, N. J.
Master Car Builder and Painter—Charles H. Snedeker, Freehold, N. J.
Roadmaster—M. Cannon, Matawan, N. J.

FULTON COUNTY—Gauge, 3. Miles op'd, 61. No. of locomotives, 30; cars, 106.
President and General Manager—S. H. Mallory, Lewiston, Ill.
Vice President—Henry Phelps, Chariton, Iowa.
General Superintendent, Passenger, Ticket, Freight and Purchasing Agent—A. C. Atherton, Lewiston, Ill
Secretary—William J. Dycks, Lewiston, Ill.
Treasurer—Moses Turner, Lewiston, Ill.
Auditor—Joseph D. Temple, Lewiston, Ill.
Roadmaster—John McNamara, Lewiston, Ill.

GAINESVILLE, JEFFERSON & SOUTHERN—(See Central R. of Georgia).

GALVESTON, HARRISBURG & SAN ANTONIO—Gauge, 4-8½. Miles operated, 1,254; No. of locomotives, 130; passenger cars, 80: freight and miscellaneous cars; 4,274.
President G. H. & S. A.—T. W. Pierce, 58 Sear's Buildings, Boston, and Mills' Building, 35 Wall st., New York.
President T. & N. O. and La. W.—C. P. Huntington, 23 Broad st., New York.
Vice President & General Land Commissioner G. H. S. A.—H. B. Andrews, San Antonio, Tex.
Vice President T. & N. O. and La. W.—J. F. Crosby, Houston, Tex.
General Manager—A. N. Towne, San Francisco, Cal.
Superintendent—E. G. Thompson, Houston, Tex.
Chief Engineer—James Converse, Houston. Tex.
Secretary and Auditor—J. E. Fisher, Houston, Tex
Treasurer—Chas. Babbidge, 58 Sear's Building, Boston.
Master of Transportation—C. W. Kouns, Houston, Tex.
General Passenger and Ticket Agent—T. W. Pierce, Jr., Houston, Tex.
General Baggage Agent—D. A. Sullivan, Houston, Tex.
General Freight Agent—C. C. Gibbs, Houston, Tex.
Superintendent Motive Power and Machinery—A. J. Stevens, Sacramento, Cal.
Division Master Mechanics—D. C. Smith, Houston, Tex.; D. T. Davis, Harrisburg, Tex.; J. J. Ryan, San Antonio, Tex.; J. L. Bonner, El Paso, Tex.
Master Car Builder—Benj. Welch, Sacramento, Cal.
Foremen of Car Repairs—J. Alexander, Harrisburg, Tex.; H. C. Standish, El Paso, Tex.
Division Superintendents—W. Irwin, Houston, Tex.; W. G. Van Vleck, San Antonio, Tex.; J. Campbell, El Paso, Tex.
Division Roadmasters—J. J. E. Lindberg, El Paso, Tex.; S. Darling, Houston, Tex.; Thos. Fitzpatrick, Sierra Blanca, Tex.; P. McCabe, Marfa, Tex.; L. Tracey, Sanderson, Tex.; L. Feely, Del Rio, Tex.; J. P. Kelly, San Antonio, Tex.; D. Richardson, Schulenburg, Tex.; J. H. Patterson, Houston, Tex.; Pat. Gaul, Houston, Tex.; Pat. Crowly, Welch's, La.; W. A. Kallaher, Woodville, Tex.

GALVESTON, SABINE & ST. LOUIS—Miles operated, 15; No. of locomotives, 2; passenger cars, 1; freight and miscellaneous cars, 19.
President—John Durand, 77 Fitzhugh st., Rochester, New York.
Vice President, General Manager, etc.—Brad Barner, Longview, Tex.
General Superintendent—C. H. Jewell, Longview, Tex.
Chief Engineer—Peter Vanderwater, Longview, Tex.
Secretary—S. H, Easton, Longview, Tex.
Treasurer—Sam. Cundiff, Longview, Tex.
Master Mechanic—S. N. Wright, Longview, Tex.
Supervisor—John Moreland, Longview, Tex.

GENEVA & LYONS—(See Fall Brook Coal Co).

GENEVA, ITHACA & SAYRE—(See Lehigh Valley.)

GEORGIA—Gauge, 5. Miles operated, 307. No. of locomotives, 42; passenger cars, 51; freight and miscellaneous cars, 966.
President, General Manager and Purchasing Agent—J. W. Green, Augusta, Ga.
Treasurer—W. T. Richards, Augusta, Ga.
Auditor—Carlton Hillyer, Augusta, Ga.
General Passenger and Freight Agent—E R. Dorsey, Augusta, Ga.
Fuel Agent—J. B. Johnson, Atlanta, Ga.
Master Mechanic—John S. Cook, Augusta, Ga.
Master Car Builder—T. M. Preval, Augusta, Ga.
Master Car Painter—J. E. Collins, Augusta, Ga.
Roadmaster—Hamilton Wilkins, Augusta, Ga.

GEORGIA PACIFIC—Gauge, 5 and 3; Miles operated, 313; No. of locomotives, 24; passenger cars, 13; freight and miscellaneous cars, 669.
President—John W. Johnston, Birmingham, Ala.

Vice President—Geo. S. Scott, New York.
General Superintendent and Purchasing Agent—I. Y. Sage, Birmingham, Ala.
Chief Engineer—R. H. Temple, Birmingham, Ala.
Assistant Treasurer—L. D. Aylett, Birmingham, Ala.
Auditor—H. C. Ansley, Birmingham, Ala.
Traffic Manager—Sol Haas, Richmond, Va.
General Passenger and Freight Agent—L. S. Brown, Birmingham, Ala.
Master Mechanic—W. T. Newman, Atlanta, Ga.

GEORGETOWN & LANES—Miles operated, 37. No. of locomotives, 2; passenger cars, 4; freight and miscellaneous cars, 48.
President and General Manager—A. G. Twiggs, Augusta, Ga.
General Freight and Passenger Agent—Thos. M. Emerson, Wilmington, N. C.

GETTYSBURG & HARRISBURG & SOUTH MOUNTAIN—Gauge, 4-9. Miles operated, 43; No. of locomotives, 6; passenger cars and combination, 16; freight and miscellaneous cars, 25.
President—J. C. Fuller, Philadelphia, Pa.
Superintendent—Wm. H. Woodward, Pine Grove Furnace, Cumberland county, Pa.
Chief Engineer—A. E. Lehman, Mount Holly Springs, Pa.
Secretary and Treasurer—John M. Butler, 114 Sth. Third st., Philadelphia, Pa.
Roadmaster—Jesse Kennedy, Mount Holly Springs, Pa.

GRAND RAPIDS & INDIANA—Gauge, 4-9. Miles operated, 510. No. of locomotives, 56; passenger cars, 36; freight and miscellaneous cars—flat, 111; box, 790; stock, 50.
President and General Manager—W. O. Hughart, Grand Rapids, Mich.
Vice Pres't, Treas. and Purchasing Agent—W. R. Shelby, Grand Rapids, Mich.
Division Superintendents—P. S. O'Rourke, Ft. Wayne, Ind.; J. M. Metheany, Grand Rapids, Mich.
Chief Engineer—M. M. Stimson, Grand Rapids, Mich.
Secretary—J. H. P. Hughart, Grand Rapids, Mich.
Auditor—P. A. Gorham, Grand Rapids, Mich.
Acting General Passenger Agent—C. L. Lockwood, Grand Rapids, Mich.
Acting General Freight Agent—C. E. Gill, Grand Rapids, Mich.
General Baggage Agent—E. Wygant, Grand Rapids, Mich.
Master Mechanic—S. D. Bradley, Grand Rapids, Mich.
Foreman Painters—W. J. Russell, Grand Rapids, Mich.
Fuel Agent—John Hughart, Grand Rapids, Mich.
Roadmasters—John Chisholm, Cadillac, Mich.; Thomas Crane, Petoskey, Mich.; S. G. Scott, Kalamazoo, Mich.; W. B. Duyrea, Ridgeville, Ind.

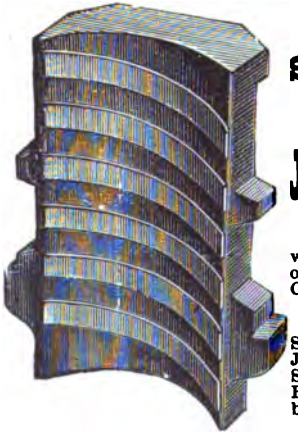
GRAND TOWER & CARBONDALE—Gauge, 4-8½. Miles operated, 25. No. of locomotives, 6; passenger cars, 3; freight and miscellaneous cars, 290;
President and Superintendent—Thos. M. Williamson, Grand Tower, Ill.
Secretary—J. D. Peters, Grand Tower, Ill.
Master Mechanic, Car Builder and Car Painter—Hugh Smith, Grand Tower, Ill.

GRAND SOUTHERN—Gauge, 4-8½. Miles operated, 82½. No. of locomotives, 5; passenger cars, 4; freight and miscellaneous cars, 50. (The road is still in the hands of the contractor, J. N. Greene, J. E. Lynett being his business agent, and F. W. Holt his engineer and superintendent.)
President—Thomas Barry, St. George, N. B.
General Manager—J. N. Greene, St. George, N. B.
Assistant General Manager and Fuel Agent—J. E. Lynett, St. George, N. B.
General Superintendent—F. W. Holt, St. George, N. B.
Secretary—John O'Neil, St. George, N. B.
Treasurer—Hugh Ludgate, St. George, N. B.
Supt. Motive Power and Machinery and Master Car Builder—Thomas Logan, St. George, N. B.
Roadmaster—S. P. Powell, St. George, N. B.

GREEN BAY, WINONA & ST. PAUL—Gauge, 4-8½. Miles operated, 252 6-10; No of locomotives, 19; passenger cars, 13; freight and miscellaneous cars, 553.
President—Samuel Sloan, New York.
General Superintendent, General Passenger, Freight and Purchasing Agent—Timothy Case, Green Bay, Wis.
Assistant General Superintendent—Theo. G. Case, Green Bay, Wis.
Secretary and Treasurer—Theo. Sturges, New York.
Assistant Treasurer—W. R. Hancock, Green Bay, Wis.
Master Mechanic—A. Fenwich, Ft. Howard, Wis.
Roadmaster—E. H. Mott, Green Bay, Wis.

GREENWICH & JOHNSONVILLE—Gauge, 4-8½. Miles operated, 15. No. of locomotives, 1; passenger cars, 1; freight and miscellaneous cars, 4.
President—Wm. D. Robertson, Greenwich, N. Y.
Vice President—Horton Cottrell, Greenwich, N. Y.
General Manager and Auditor—J. H. Thompson, Greenwich.
Secretary—Edmund H. Gibson, Greenwich, N. Y.
Treasurer—Chas. H. Van Ness, Greenwich, N. Y.
Roadmaster—E. W. Cook, South Cambridge, New York.

Le Roy Journal Bearing Co.



MANUFACTURES AND

SELLS THE BEST

Anti-Friction, Non-Heating

JOURNAL-BEARING BRASSES,

UNDER LETTERS PATENT

which infringe upon no other, and the validity of which is officially affirmed in final decision Commissioner of Patents as follows:

"WASHINGTON, August 31, 1883.

For a Journal Box composed of Hard and Soft Metal, the SOFT METAL BANDS PROJECTING ON THE JOURNAL BEARING SIDE BEYOND THE SURFACE OF THE HARD METAL, Priority of Invention must be Awarded to LE ROY."

ADDRESS

GEO. W. McLEAN, President,

145 Broadway, NEW YORK.

STROUD, SIBBALD & CO.,

IMPORTERS OF

STEEL AND IRON RAILS,

Old Rails, Scrap Iron,

PIG IRON, SPIEGELEISEN, ETC.

104 John Street,

NEW YORK.

GRAND TRUNK OF CANADA—Gauge, 4-8½. Miles operated. 2,902½. No. of locomotives, 710; passenger cars, 770; freight and miscellaneous cars, 17,450.
President—Sir Henry W. Tyler, M. P., London, Eng.
Vice President—Sir Charles L. Young, Bart., London, Eng.
General Manager—Joseph Hickson, Montreal, Can.
Assistant Manager—Wm. Wainwright, Montreal, Can.
Superintendent—W. J. Spicer, Montreal, Can.
Superintendent Great Western Division—Chas. Stiff, Hamilton, Can.
Chief Engineer—E. P. Hannaford, Montreal, Can.
Engineer Great Western Division—Joseph Hobson, Hamilton, Can.
Assistant Engineers—J. Y. Lloyd, Richmond, Can.; H. B. Hollingshead, Toronto, Can.; J. Brotherhood, Stratford, Can.; J. G. Macklin, Peterboro, Can.; G. Robinson, Stratford, Can.
Secretary—John B. Renton, London, Eng.
Treasurer—Robert Wright, Montreal, Can.
Accountant—H. W. Walker, Montreal, Can.
Auditor—T. B. Hawson, Montreal, Can.
Traffic Manager—L. J. Seargeant, Montreal, Can.
Division Traffic Manager—A. White, Peterboro, Can.
General Passenger Agent—James Stephenson, Montreal, Can.
General Baggage Agent—S. Symons, Montreal, Can.
General Freight Agent—John Porteous, Montreal, Can.
General Storekeeper—John Taylor, Montreal, Can.
Storekeeper Great Western Division—E. R. Baines, London, Can.
Fuel Agent—D. McTaggart, Montreal, Can.
Fuel Agent Great Western Division—B. W. Waud, Hamilton, Can.
Mechanical Superintendent—Herbert Wallis, Montreal, Can.
Mechanical Sup't Great Western Div.—C. K. Domville, Hamilton, Can.
Assistant Mechanical Superintendents—F. L. Wauklyn, Montreal, Can.; J. W. Harkom, Richmond, Can.; R. Boag, Stratford, Can.; J. D. Barnett, Port Hope, Can.; J. D. McIlwaine, London, Can.; A. H. Smith, Toronto, Can.
Master Car Builder—W. McWood, Montreal, Can.
Local Manager—E. Wragge, Toronto, Can.
Division Superintendents—T. H. Cooper, Montreal; R. Larmour, Stratford; A. Gregory, Island Pond, Vt.; J. M. Riddell, Stratford; W. B. Ferguson, Peterboro; J. E. Dawson, London, Can.; W. R. Tiffin, Palmerston, Can.

GULF, COLORADO & SANTA FE—Gauge, 4-8½. Miles operated, 534. No. of locomotives, 51; passenger cars, 37; freight and miscellaneous cars, 1,375.
President—George Sealy, Galveston, Tex.
Vice President—R. S. Willis, Galveston.
General Manager—Webster Snyder, Galveston.
Assistant General Manager, Secretary, Auditor and Purchasing Agent—Frank P. Killeen, Galveston.
Master of Transportation—J. H. Crowley, Galveston.
Chief Engineer—B. M. Temple, Galveston.
Treasurer—Waters S. Davis, Galveston.
General Passenger, Ticket and Freight Agent—Oscar G. Murray, Galveston.
General Baggage Agent—James H. Kelley, Galveston.
Master Mechanic—Geo. B. Nichols, Galveston.
Master Car Builder—W. H. Martin, Galveston.
Roadmaster—John Mulvehill, Galveston.

GULF, WESTERN TEXAS & PACIFIC—Gauge, 4-8½. Miles operated, 66; No. of locomotives, 6; passenger cars, 2; freight and miscellaneous cars, 72.
President, General Superintendent, Treasurer, General Passenger, Ticket, Freight, Purchasing and Fuel Agent—M. D. Monserrate, Cuero, Texas.
Vice President—F. S. Stockdale, Cuero, Tex.
Secretary—A. Da Costa, Corpus Christi, Tex.
Auditor—Stephen Minot, Cuero, Tex.
Master Mechanic and Car Builder—James Mooney, Cuero, Tex.
Roadmaster—James Beaumont, Victoria, Tex.

HANNIBAL & ST. JOSEPH—Gauge, 4-8½. Miles operated, 294·55-100. No. locomotives, 78; passenger, cars, 29; Freight and miscellaneous cars, 1·728.
President—C. E. Perkins, Burlington, Iowa.
Vice President—John B. Carson, Hannibal, Mo.
Vice President and General Manager—T. J. Potter, Chicago.
General Supt. and Chief Engineer—T. L. Dunn, Hannibal, Mo.
Secretary—W. J. Ladd, Boston, Mass.
Treasurer—Walter J. Hilton, Hannibal, Mo.
Auditor—C. W. Winslow, Hannibal, Mo.
General Passenger and Ticket Agent—S. K. Hooper, Hannibal, Mo.
General Baggage Agent—W. F. Allen, Quincy, Ill.
General Freight Agent—W. H. McDoel, Hannibal, Mo.
Purchasing Agent—William Irving, Chicago, Ill.
Fuel Agent—W. P. Brubaker, Hannibal, Mo.
Superintendent Motive Power and Machinery—James Long, Hannibal, Mo.
Division Master Mechanic—P. H. Peck, Brookfield, Mo.
Foreman of Locomotive Repairs—John Long, Hannibal, Mo.
Foreman Car Repairs—Charles Coller, Hannibal, Mo.
Master Car Painter—E. Bailey, Hannibal, Mo.
Road Masters—P. Ryan, Palmyra Junction; P. Watson, Brookfield; W. Nolan, Cameron Junction; H. Byrne, St. Joseph, Mo.

HANOVER BRANCH—Gauge, 4-½. Miles operated, 8; No. of locomotives, 3; passenger cars, 6; freight and miscellaneous cars, 18.
President, General Manager and Sup't—E. Y. Perry, South Hanover, Mass.
Chief Engineer—Harvey Magiathlin, Hanover, Mass.
Secretary—Calvin S. Phillips, S. Hanover, Mass.
Treasurer—Albert Culver, Rockland, Mass.
Master Mechanic and Car Builder—Edgar A. Josselyn. Hanover, Mass.
Roadmaster—Jeremiah Griffin, Hanover.

HANOVER JUNCTION, HANOVER & GETTYSBURGH, BACHMAN VALLEY, BALTIMORE & HANOVER—Gauge, 4-8½. Miles operated, 72. No. locomotives, 10; passenger cars, 14.
President—A. W. Eichelberger, Hanover, Pa.
Vice President—W. H. Vickery (Baltimore & Hanover only), Baltimore, Md.
General Superintendent—H. D. Scott, Hanover, Pa.
Secretary—R. M. Wirt, Hanover Junction, Hanover & Gettysburg R.; Hanover, Pa.; L. F. Meisheimer, Baltimore & Hanover R.; Hanover. Pa.
Treasurer—R. A. Eichelberger, Hanover Junction, Hanover & Gettysburg R.: C. W. Forney, Bachman Valley R.; R. M. Wirt, Baltimore & Hanover R.; Hanover, Pa.
Auditor. General Ticket and Freight Agent—Joseph Leib, Hanover.
Purchasing and Fuel Agent—A. W. Eichelberger, Hanover.
Master Mechanic—John J. Bingly, Hanover.
Master Car Builder—James Harthorn, Hanover.
Master Car Painter—R. Sprenkle, Hanover.
Road Masters—Ed. Twomey, Granite Hill, Pa.; John Williams, New Oxford, Pa.; William Tucker, Hanover, Pa.; Eli Behler, Hanover Junction, Pa.; A. Wesensale, Abbottstown, Pa.; Daniel Krout, Green Ridge, Pa.; John Runk, Millers, Md.; William Reaver, Hampstead, Md.; John Heintzman. Fairview, Md.

HARRISBURG & POTOMAC—Gauge, 4-8½. Miles operated, 37½. No. of locomotives, 3; passenger cars, 6; freight and miscellaneous cars, 46.
President—Cary W. Ahl, Boiling Springs, Pa.
Gen'l Sup't and Purchasing Agent—Robert H. Middleton, Boiling Springs, Pa.
Secretary—Asbury Durland, Boiling Springs, Pa.
Treasurer—Thomas W. Ahl, Boiling Springs, Pa.

HARTFORD & CONNECTICUT WESTERN—Gauge, 4-8½. Miles operated, 110. No. of locomotives, 18; passenger cars, 24; freight and miscellaneous cars, 486.
President—Wm. L. Gilbert, Hartford, Conn.
Vice President Chief Engineer, General Freight and Purchasing Agent—John F. Jones, Hartford, Conn.
Secretary and Treasurer—E. R. Beardsley, Hartford.
General Ticket Agent—Walter Pearce, Hartford.
Master Mechanic—John C. Barton, Hartford.
Roadmaster—Samuel Greer, West Winsted, Conn.
Supervisor of Bridges—Chas. Babbitt, West Winsted.

HARTFORD & CONNECTICUT VALLEY—Gauge, 4-8½. Miles operated, 46. No. of locomotives, 9; passenger cars, 14; baggage cars, 7; freight and miscellaneous cars, 159.
President, Treasurer and Freight Agent—Samuel Babcock, Hartford, Conn.
Vice President—Geo. H. Watrous, New Haven, Conn.
Superintendent—O. M. Shepard, New Haven, Conn.
Assistant General Superintendent and Passenger Agent—Levi Woodhouse, Hartford, Conn.
Secretary and General Ticket Agent—Wm. C. Brainard, Hartford, Conn.
Assistant General Freight Agent—A. D. Chapin, Hartford, Conn.
Superintendent Motive Power and Machinery—John Henry, Jr., Hartford.
Roadmaster—Edward R. Loomis, Hartford.

HARTWELL—Gauge, 3. Miles operated, 10; No. of locomotives, 1; passenger cars, 1; freight and miscellaneous cars, 3.
President—A. S. Buford, Richmond, Va.
General Manager—A. L. Rives, Richmond, Va.
General Superintendents—E. Berkeley, Atlanta, Ga.; M. Slaughter, Richmond, Va.
Treasurer—W. E. Turner, Richmond, Va.
Auditor—E. A. Barber, Richmond, Va.
Fuel Agent, Master Mechanic, Car Builder, Car Painter and Roadmaster—James Wilson, Toccoa, Ga.

HERKIMER, NEWPORT & PORTLAND—Gauge, 3-6. Miles operated 17. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 29.
President—E. M. Burns, Middleville, N. Y.
Vice President—S. R. Millington, Poland, N. Y.
Superintendent and Chief Engineer—Albert Wilber, Herkimer, N. Y.
Secretary and Auditor of Accounts—Thomas E. Merritt, Newport, N. Y.
Treasurer—Geo. H. Thomas, Middleville, N. Y.
Machinist—Anson W. Phillips, Middleville, N. Y.

HOT SPRINGS—Gauge, 3. Miles operated, 25. No. of locomotives, 3; passenger cars, 5; freight and miscellaneous cars, 28.
President, Secretary and Treasurer—Joseph Reynolds, Chicago.
Superintendent—J. A Conger, Hot Springs, Ark.
Auditor—M. N. Pierce, Hot Springs, Ark.
Master Mechanic—Leonard Finlay, Malvern, Ark.
Roadmaster—George Worley, Malvern, Ark.

HOUSATONIC—Gauge, 4-8½. Miles operated, 127. No. of locomotives, 23; passenger cars, 26; freight and miscellaneous cars, 880.
President—Hon. W. H. Barnum, Lime Rock, Conn.
Vice President and Purchasing Agent—David S. Draper, Bridgeport, Conn.
General Superintendent—W. H. Yeomans, Bridgeport, Conn.
Assistant General Superintendent—C. W. Wood, Bridgeport, Conn.
Secretary and Treasurer—C. K. Averill, Bridgeport, Conn.
Auditor—F. W. Hull, Bridgeport, Conn.
General Ticket Agent—H. D. Averill, Bridgeport, Conn.
General Freight Agent—H. C. Cogswell, Bridgeport, Conn.
Master Mechanic—N. Slingland, Falls Village, Conn.
Foreman of Locomotive Repairs—C. K. Booth, Falls Village, Conn.
Master Car Builder—J. J. Ferris, Falls Village, Conn.
Master Car Painter—Perrie Mundry, Falls Village, Conn.
Roadmaster—C. S. Lane, Great Barrington, Mass.

HOUSTON & TEXAS CENTRAL—Gauge, 4-8½. Miles operated, 743.1. No. of locomotives, 78; passenger cars, 53; freight and miscellaneous cars, 1,826.
President—A. C. Hutchinson, New Orleans, La.
Vice President and Traffic Manager—J. Waldo, Houston, Tex.
General Transportation Manager—A. H. Swanson, Houston, Tex.
Secretary—A. S. Richardson, Houston, Tex.
Treasurer—E. W. Cave, Houston, Tex.
Auditor—H. Hall, Houston, Tex.
General Passenger and Ticket Agent—A. Faulkner, Houston, Tex.
General Freight Agent—E. D. True, Houston, Tex.
General Baggage Agent—Robert Adair, Houston, Tex.
Purchasing Agent—E. S. Larcher, 13 William street, New York.
Fuel Agent—R. A. Allen, Hempstead, Tex.
Master Mechanic—L. C. Noble, Houston, Tex.
Master Car Builder—J. McGee, Houston, Tex.
Master Car Painter—C. L. May, Houston, Tex.
Engineer and Superintendent First Division—M. G. Howe, Houston, Tex.
Engineer and Superintendent Second Division—G. A. Quinlan, Corsicana, Tex.
Engineer and Superintendent Third Division—D. Allen, Waco, Tex.
Roadmasters—J. W. Gibson, Houston, Tex.; I. T. Ingraham, Giddings, Tex.; P. J. Burke, Corsicana, Tex.: Wm. Bann, Corsicana. Tex.; P. A. Gorman, Waco, Tex.; P. Fanning, Garrett, Tex.

HOUSTON, EAST & WEST TEXAS—Gauge, 3. Miles operated, 140. No. of locomotives, 14; passenger cars, 9; freight and miscellaneous cars, 453.
President and Purchasing Agent—Paul Bremond, Houston, Tex.
Vice President—J. F. Crosby, Houston.
General Manager—E. L. Bremond, Houston.
Chief Engineer—C. A. Noblitt, Nacogdoches, Tex.
Division Engineer—W. A. Polk, Houston.
Auditor—H. C. Bailey, Houston.
General Passenger, Ticket and Freight Agent—Chas. G. Fitze, Houston.
Tie and Fuel Agent—G. L. Milledge, Houston.
Master Mechanic—O. Diffey, Houston.
Foreman of Locomotive Repairs—Charles Appell, Houston.
Master Car Builder—Charles Schellewa, Houston.
Foreman of Car Repairs—Felix J. Monhausen, Houston.
Master Car Painter—Thos. De Young, Houston.
Roadmaster—C. Morlein, Houston.

HUMESTON & SHENANDOAH—Gauge, 4-8½. Miles operated, 113. No. of locomotives, 18; passenger cars, 2; freight and miscellaneous cars, 76.
President—Jas. F. How, St. Louis, Mo.
General Manager and Secretary—F. O. Wyatt, Ashland Block, Chicago.
General Superintendent—C. H. Warren, Clarinda, Ia.
Treasurer—W. W. Baldwin, Burlington, Ia.
Auditor and Assistant Treasurer—J. H. Ellis, Clarinda, Ia.
General Passenger, Ticket and Freight Agent—H. C. Nelson, Clarinda, Ia.
Superintendent Motive Power and Machinery—M. B. Snyder, Shenandoah, Ia.
Roadmaster—S. D. Purdy, Clarinda, Ia.

HUNTINGDON & BROAD TOP MOUNTAIN—Gauge, 4-8½. Miles operated, 65½. No. of locomotives, 18; passenger cars, 7; freight and miscellaneous cars, 312.
President—B. Andrews Knight, 417 Walnut street, Philadelphia.
General Manager—Geo. F. Gage, Huntingdon, Pa.
Secretary and Treasurer—J. P. Donaldson, 417 Walnut street, Philadelphia.
Purchasing Agent—S. B. Knight, 417 Walnut street, Philadelphia.
Master Mechanic—Wm. Barkla, Saxton, Pa.
Supervisor—H. A. Lewis, Huntingdon, Pa.

ILLINOIS & ST. LOUIS RAILROAD & COAL CO.—Gauge, 4-8½. Miles operated, 24. No. of locomotives, 10; passenger cars, 4; freight and miscellaneous cars, 435.
President—Jos. W. Branch, St. Louis, Mo.
Vice President—Thos. McKissock, St Louis.
General Superintendent—C. H. Sharman, St. Louis.
Secretary, Treasurer and General Passenger and Freight Agent—P. T. Burke, St. Louis.
Master Mechanic—D. J. Timlin, Belleville, Ill.
Master Car Builder—C. Rotha, East St. Louis, Ill.
Roadmaster—P. English, Belleville, Ill.

ILLINOIS CENTRAL—Gauge, 4-8½. Miles operated, 1,928. No. of locomotives, 334; passenger cars, 315; freight and miscellaneous cars, 8,250.
President—James C. Clarke, Chicago.
Vice President—Stuyvesant Fish, 214 Broadway, New York.
Assistant to President—John Dunn, Chicago.
General Superintendent—Edward T. Jeffery, Chicago.
Superintendent Illinois and Iowa Divisions—C. A. Beck, Chicago.
Superintendent Southern Division—C. M. Sheafe, New Orleans.
Acting Chief Engineer—Edward T. Jeffery, Chicago.
Secretary—L. A. Catlin, New York.
Assistant Secretary—W. J. Mauriac, Chicago.
Treasurer—L. V. F. Randolph, New York.
Assistant Treasurer—Henry De Wolf, Chicago.
Local Treasurer—R. S. Charles, New Orleans.
General Auditor—J. C. Welling, Chicago.
Car Accountant—E. M. Horton, Chicago.
Traffic Manager—J. F. Tucker, Chicago.
General Passenger Agent—A. H. Hanson, Chicago.
Assistant General Passenger Agent—J. W. Coleman, New Orleans.
General Baggage Agent—H. A. Winter, Chicago.
General Freight Agent—Horace Tucker, Illinois and Iowa Division, Chicago.
Asst. General Freight Agent—Wm. E. Keepers, Illinois and Iowa Division, Chicago.
General Freight Agent—D. B. Morey, Southern Division, New Orleans.
Purchasing Agent—Oran Ott, Chicago.
Superintendent of Machinery—H. Schlacks, Chicago.
Asst. Superintendent of Machinery—A. W. Sullivan, Chicago.
Division Master Mechanics—Wm. Renshaw, Chicago; J. B. Edams, Amboy, Ill.; T. W. Place, Waterloo, Iowa; W. B. McKenna, Clinton, Ill.; J. F. White, Water Valley, Miss.; E. D. Anderson, McComb City, Miss.
Master Car Builder—W. B. Snow, Chicago.
Supervisor of Bridges—A. G. French, Chicago.
Master Carpenter—W. Harper, Chicago.
Division Superintendents—T. J. Hudson, Cairo, Ill.; J. W. Seymour, Cairo, Ill.; J. C. Jacobs, D. S. Bailey, Amboy, Ill.; M. Gilleas, F. W. Quimby, Dubuque, Iowa; W. Wilkinson, Springfield, Ill.; H. L. Frisbie, Pontiac, Ill.; J. G. Mann, H. W. Clarke, Jackson, Tenn.; J. M. Turner, New Orleans.
Roadmasters—J. M. Healey, Champaign, Ill.; T. C. Spalding, Chicago, Ill.; F. R. Doty, Amboy, Ill.; J. Jacobs, Dubuque, Iowa; D. Coads (Road Supervisor), Clinton, Ill.; J. Butler, Pontiac, Ill.; J. H. McWilliam, Jackson, Tenn.; J. J. Conway, New Orleans, La.

ILLINOIS MIDLAND—Gauge, 4-8½. Miles operated, 176.5.
General Manager, Receiver and Purchasing Agent—D. H. Conklin, Decatur, Ill.
Train Master—O. E. Grady, Decatur, Ill.
Cashier—E. A. West, Decatur, Ill.
Samuel C. Smith, Decatur, Ill.
Traffic Manager, General Passenger, Ticket, Baggage and Freight Agent—A. E. Shrader, Terre Haute, Ind.
Foreman of Shops and Master Car Builder—F. Young, Paris, Ill.
Roadmaster—Peter Ford, Marca, Ill.

INDIANA & ILLINOIS SOUTHERN—Gauge, 3. Miles operated, 89. No. of locomotives, 6; passenger cars, 2; freight and miscellaneous cars, 150.
President—John B. Lyon, Chicago, Illinois.
Vice President, Gen'l Manager and Purch'g Agent—W. C. Lyon, Robinson, Ill.
Chief Engineer—Charles Seymour, Effingham, Ill.
Secretary and Treasurer—Thos. B. Rice, Chicago.
Auditor—Chas. H. Steel, Robinson, Ill.
Master Mechanic—J. S. Pickering, Palestine, Ill.
Roadmaster—Johnson Fitzpatrick, Switz City, Ind.

INDIANA, BLOOMINGTON & WESTERN—Gauge, 4-8½. Miles operated, 695. No. of locomotives, 109; passenger cars, 117; freight and miscellaneous cars, 3,563.
President—Austin Corbin, New York.
Vice President—Alfred Sully, New York.
General Manager—C. E. Henderson, Indianapolis, Ind.
General Superintendent—I. H. Wilson, Indianapolis.
Engineer of Buildings and Bridges—M. M. Defrees, Indianapolis.
Secretary—J. D. Campbell, New York.
Treasurer—F. W. Dunton, New York.

Auditor—G. L. Dickenson, Indianapolis.
General Ticket Agent—H. M. Bronson, Indianapolis.
General Baggage Agent—John A. Glover, Indianapolis.
General Freight Agent—H. C. Diehl, Indianapolis.
Purchasing Agent—H. C. Norton, Indianapolis.
Master Mechanic—B. Warren, Indianapolis.
Division Master Mechanics—E. Hiserodt, Urbana, Ill.; J. S. Porter, Sandusky, O.
Trainmaster—P. A. Marsh, Indianapolis.
Roadmaster—John Sloan, Indianapolis.
Division Roadmasters—R. Baker, Urbana, Ill.; A. J. Diddle, Indianapolis; Thomas Holley, Springfield, O.; Pat. Lynch, Kenton, O.

INDIANA, ILLINOIS & IOWA—Gauge, 4-8½. Miles operated, 110. No. of locomotives, 5; passenger cars, 4; freight and miscellaneous cars, 84.
President—A. W. Spies, New York.
General Manager—F. M. Drake, Centerville, Ia.
General Superintendent, Passenger, Baggage, Freight and Purchasing Agent—T. P. Shonts, Kankakee, Ill.
Secretary—H. M. Curtis, New York.
Treasurer—F. E. Drake, Kankakee, Ill.
Fuel Agent—Ed. Fletcher, Kankakee, Ill.
Master Mechanic—H. P. Vedder, Kankakee, Ill.
Roadmaster—J. D. Carle, Kankakee, Ill.

INDIANAPOLIS & EVANSVILLE—Gauge, 4-8½. Miles operated, 57.
Receiver—C. J. Hepburn, Evansville, Ind.
Superintendent—D. J. Mackey, Evansville, Ind.
Master of Transportation—J. H. Hedden, Evansville, Ind.

INDIANAPOLIS & ST. LOUIS—(See Cleveland, Columbus, Cincinnati & Indianapolis.)

INDIANAPOLIS & VINCENNES (Pennsylvania Company op rating)—Gauge, 4-8½. Miles operated, 117. No. of locomotives, 11; passenger cars, 8; freight and miscellaneous cars, 295.
President—Geo. B. Roberts, Philadelphia, Pa.
First Vice President—J. N. McCullough, Pittsburgh, Pa.
Second Vice President—Wm. Thaw, Pittsburgh.
Third Vice President and Comptroller—Thos. D. Messler, Pittsburgh.
Manager—James McCrea, Columbus, O.
Chief Engineer—M. J. Becker, Columbus, O.
Engineer Maintenance of Way—L. F. Loree, Indianapolis, Ind.
Secretary—S. B. Liggett, Pittsburgh.
Treasurer—John E. Davidson, Pittsburgh.
Auditor—J. P. Farley, Pittsburgh
General Passenger and Ticket Agent—E. A. Ford, Pittsburgh.
General Baggage Agent—R. R. Bentley, Pittsburgh.
General Freight Agent—Wm. Stewart, Pittsburgh.
Purchasing Agent—Wm. Mullins, Pittsburgh.
Superintendent Motive Power and Machinery—E. B. Wall, Columbus, O.
Master Mechanic—Robert Curtis, Columbus, O.
Foreman of Locomotive Repairs—W. C. Arp, Indianapolis, Ind.
Foreman of Car Repairs—John Gouschall, Indianapolis, Ind.
Division Superintendent—J. J. Turner, Indianapolis, Ind.
Supervisors—S. B. Stillinger and Jas. King, Indianapolis, Ind.

INDIANAPOLIS, DECATUR & SPRINGFIELD—Gauge, 4-8½. Miles operated, 152. (Operated and under lease to Indianapolis, Bloomington & Western.)
President—H. B. Hammond, New York.
General Agent—J. V. McNeal, Indianapolis, Ind.
Secretary—A. K. Duprat, New York.

INDIANAPOLIS UNION—Gauge, 4-8½. Miles operated, 21. No. of locomotives, 10; freight and miscellaneous cars, 10.
President—James McCrea, Indianapolis, Ind.
Vice President and General Manager—V. T. Malott, Indianapolis.
Superintendent—D. F. Whitcomb, Indianapolis.
Chief Engineer—E. B. Wingate, Indianapolis.
Secretary and Treasurer—W. N. Jackson, Indianapolis.
Auditor—W. P. Ijams, Indianapolis.
General Baggage Agent—Geo. S. Venn, Indianapolis.
Master Mechanic—John Caffrey, Indianapolis.
Roadmaster—J. B. Witty, Indianapolis.

INTERCOLONIAL—Gauge, 4-8½. Miles operated, 840; No. of locomotives, 138; passenger cars, 138; freight and miscellaneous cars, 4,299.
Minister of Railways and Canals—Sir Chas. Tupper, K. C. M. G., Ottawa, Can.
Deputy Minister—Thomas Trudeau, Ottawa, Can.
Secretary Department of Railways and Canals—A. P. Bradley, Ottawa.
General Manager—Collingwood Schreiber, Ottawa.
Chief Superintendent—David Pottinger, Moncton, N. B.
Chief Engineer—P. S. Archibald, Moncton, N. B.

THE KING VARNISH COMPANY

AKRON, OHIO.

IMPERIAL VARNISHES

JAPANS, DRYERS,

OIL FINISH, &c.

Correspondence Solicited.

THE

Railway Purchasing Agent

— AND —

SUPPLY TRADE JOURNAL.

A monthly journal devoted to the interests of all who buy or sell Railway Supplies. The

Handsomest Railway Journal Published,

AND THE BEST

ADVERTISING MEDIUM

FOR REACHING THE

RAILWAY TRADE.

It publishes a full list of changes in the official railway list monthly.

$1.50 A YEAR.

Send for Specimen Copy.

THE RAILWAY PURCHASING AGENT CO.,

162 La Salle St., Chicago.

WILLARD C. TYLER, Manager.

BERNARD DREYFUSS

SUCCESSOR TO

DREYFUSS & SACHS

PERFORATE

TIN AND METAL

FOR THE TRADE

SAMPLES FURNISHED ON APPLICATION

75, 77, 79 & 81 DUANE ST. N.Y.

Assistant Engineer—W. B. McKenzie, Moncton, N. B.
Treasurer—Thomas Williams, Moncton. N. B.
Auditor—J. R. Bruce. Moncton, N. B.
General Passenger, Ticket, and Baggage Agent—Arthur Busby, Moncton, N.B.
General Freight Agent—George Taylor, Moncton, N. B.
General Storekeeper—Thomas Cooke, Moncton, N. B.
Mechanical Superintendent—H. A. Whitney, Moncton, N. B.
Division Master Mechanics—Wm. Johnston, Halifax, N. S.; C. Ouillette, Riviere du Loup, Que.
Shop Foreman of Locomotive Repairs—John McHaffie. Moncton, N. B.
Foremen of Car Repairs—L. D. Shaffer, Moncton, N. B.; A. S. Coleman, Moncton, N. B.
Division Superintendents—J. J. Wallace, Truro, N. S.; James Price, Campbellton, N. B.; A. R. McDonald. Riviere du Loup, Que.
Roadmasters—James Yeo, Riviere du Loup, Que.; Wm. Rainnie, Campbellton, N. B.; Wm. McLellan, New Castle, N. B.; John Starr Trites, Moncton, N. B.; Thomas O'Regan, Truro, N. S.

INTERNATIONAL—Gauge, 4-8½. Miles operated, 70; No. of locomotives, 3; passenger cars, 4; freight and miscellaneous cars, 30.
President—Hon J. H. Pope, Ottawa, Ont.
Vice President—Hon. E. T. Brooks, Sherbrooke, Que.
General Superintendent—D. E. McFee, Sherbrooke, Que.
Chief Engineer—A. F Hilton, Agnes, Que.
Secretary—James Davidson, Sherbrooke, Que.
Cashier—A. F. Simpson, Sherbrooke, Que.
Master Mechanic—Joseph Ruelle, Sherbrooke, Que.
Foreman of Car Repairs—Wm. Charest, Sherbrooke, Que.
Roadmaster—W. E. Smith, Bury, Que.

JACKSONVILLE & SOUTHEASTERN—Gauge, 4-8½. Miles operated, 112. No. of locomotives, 6; passenger cars. 11; freight and miscellaneous cars, 63.
President—Wm. S. Hook, Jacksonville, Ill.
General Superintendent, Auditor, General Passenger, Ticket, Freight and Purchasing Agent—E. S. Greenleaf, Jacksonville, Ill.
Secretary and Treasurer—M. P. Ayers, Jacksonville, Ill.
Master Mechanic—Ira Petrie, Jacksonville, Ill.
Roadmaster—George H. Dunivan, Jacksonville, Ill.

JACKSONVILLE, ST. AUGUSTINE & HALIFAX RIVER—Gauge, 3. Miles operated, 37. No. of locomotives, 3; passenger cars, 6; miscellaneous cars, 19.
President—W. Jerome Green, Utica, N. Y.
General Manager and Treasurer—W. L. Crawford, St. Augustine, Fla.
General Superintendent—H. S. Ming, Jacksonville, Fla.
Secretary—J. N. Hayes, Utica. N. Y.
General Passenger and Freight Agent—G. D. Ackerly, Jacksonville, Fla.

JACKSONVILLE, TAMPA & KEY WEST—(Under construction.) Gauge, 5.
President—Wm. Van Fleet, Jacksonville, Fla.
General Manager—G. W. Bentley, Jacksonville, Fla.
General Passenger and Freight Agent—M. R. Moran, Jacksonville, Fla.

JEFFERSONVILLE, MADISON & INDIANAPOLIS—Pennsylvania Co., lessee. Gauge, 4-9. Total miles operated, 225; No. of locomotives, 43; passenger cars, 41; freight and miscellaneous cars, 1,248.
President—George B. Roberts, Philadelphia, Pa.
First Vice President—J. N. McCullough, Pittsburgh, Pa.
Second Vice President—Wm. Thaw, Pittsburgh.
Third Vice President and Comptroller—Thomas D. Messler, Pittsburgh.
Manager—James McCrea, Columbus, O.
Superintendent—E. W. McKenna, Louisville, Ky.
Chief Engineer—M. J. Becker, Columbus, O.
Auditor—Geo. S. McKiernan, Louisville.
Treasurer—John E. Davidson, Pittsburgh.
General Passenger and Ticket Agent—E. A. Ford, Pittsburgh.
Assistant Passenger Agent—H. R. Dering, Louisville.
General Baggage Agent—R. R. Bentley, Pittsburgh.
General Freight Agent—R. W. Geiger, Louisville.
Purchasing Agent—W. Mullins, Pittsburgh.
Superintendent Motive Power—E. B. Wall, Columbus, O.
Master Mechanic—W. Swanston, Jeffersonville, Ind.
Foreman of Car Repairs—Edward Austin, Jeffersonville. Ind.
Master Car Painter—H. Thomas, Jeffersonville, Ind.
Train Master—J. B. Safford, Columbus, Ind.
Engineer Maintenance of Way—J. A. Weiss, Columbus, Ind.
Assistant Engineer Maintenance of Way—J. W. Clarke, Columbus, Ind.
Supervisors—M. Gilhooley, Columbus, Ind.; S. E. Tingle, Columbus, Ind.; M. Purcell, Columbus, Ind.

KAATERSKILL—Gauge, 4. Miles operated, 8.
Superintendent—J. H. Jones, Rondout, N Y.

PUBLICATIONS OF

THE RAILROAD GAZETTE,

73 BROADWAY, NEW YORK.

Railroad Gazette, an illustrated weekly journal of all departments of railroad business, of practical value to officers and employes. Every man who hopes for promotion should read the *Railroad Gazette*. $4.20 per year. Specimen copies free. Bound volumes, 1872 to 1883, inclusive, one volume to each year, $6 each.

BOOKS.

Mailed, postage prepaid, on receipt of the price. Remittances should be made by registered letter, or post-office order, or draft payable to THE RAILROAD GAZETTE.

Illustrations and Descriptions of Recent Locomotives. Large quarto volume. Two hundred engravings. (Sent by express at buyer's expense, unless 50 cents additional be remitted to prepay postage.) Price, $5.

Catechism of the Locomotive. By M. N. FORNEY. 625 pages, 250 engravings. Price, $2.50.

Car-Builder's Dictionary. By a committee of the Master Car Builders' Association. 800 engravings. Price, $2.00.

Painting and Painters' Materials. By CHARLES L. CONDIT. Under the supervision of JACOB SCHELLER, Master Painter. $2.25.

Road-Master's Assistant and Section-Master's Guide. By WILLIAM S. HUNTINGTON. Revised by CHARLES LATIMER. Price, $1.50.

Railway Revenue and its Collection. (Second edition, revised and enlarged.) By M. M. KIRKMAN. Price, $2.50.

Railway Expenditures; Their Extent, Object, and Economy. By M. M. KIRKMAN. 2 vols. Price, $4.00.

Hand-Book of Railway Expenditures. By M. M. KIRKMAN. $2.

Railway Service; Trains and Stations. By M. M. KIRKMAN. $2.

Baggage, Parcel, and Mail Traffic of Railroads. By M. M. KIRKMAN. Price, $2.50.

PAMPHLETS.

Railroad Commissions; nature and operation and the laws of all States that have commissions	$0.50
Bridge Disasters in America, the Cause and Remedy (VOSE)	0.25
Railroad Local Passenger Traffic (LEE)	0.25
Railroad Employes in France (JACQMIN)	0.25
The Argument for State Railroad Ownership	0.25
The Verrugas Viaduct (PONTZEN)	0.40
Standard and Narrow Gauge (VON WEBER)	0.25
Taxation of Railroads and Railroad Securities (ADAMS)	0.25
American Railway Master Mechanics' Association Reports. Each	1.75
Master Car-Builders' Association Reports. Each	0.50
Track Accounts: How they should be kept (KIRKMAN)	1.00
Mutual Guarantee: Substitutes for bondsmen (KIRKMAN)	0.50
Freight Traffic Way-Bill: Illustrated and described (KIRKMAN)	0.50

DRAWINGS, ON CARD-BOARD.

Standard Car and Tender Axle	$0.20
Standard Journal Bearing and Key	0.20
Standard Journal Box	0.20
Standard Pedestal	0.20
Complete set of above drawings	0.60

KANSAS CITY & SOUTHERN—Gauge 4-8½. Miles operated, 12.
President and General Manager—Wm. Bailey, St. Louis, Mo.
Assistant General Manager—F. M. Green, Clinton, Mo.
Secretary—Amos Tenney, St. Louis, Mo.
Superintendent—David Stillinger, Clinton, Mo.

KANSAS CITY, FT. SCOTT & GULF, & KANSAS CITY, SPRINGFIELD & MEMPHIS—Gauge, 4-8½. Miles operated, 665. No. of locomotives, 44; passenger cars, 21; freight and miscellaneous cars, 1,481.
President—H. H. Hunnewell, Boston, Mass.
General Manager —Geo. H. Nettleton, Kansas City, Mo.
General Superintendent—L. W. Towne, Kansas City.
Chief Engineer—S. W. Clapp, Ft. Scott, Kas.
Secretary and Treasurer—Chas. Merriam, Boston.
Comptroller—J. S Ford, Kansas City.
General Passenger and Ticket Agent—J. E. Lockwood, Kansas City.
General Baggage Agent—F. E. Nettleton, Kansas City, Mo.
General Freight Agent—M. L. Sargent, Kansas City.
Purchasing and Fuel Agent—H. P. Jacques. Kansas City.
Superintendent Motive Power and Machinery—J. S.McCrum, Kansas City.
Master Car Builder—A. N. Montier, Kansas City.
Division Superintendents—P. F. Clinton, Kansas City, Mo.: J. R. Mills, Cherokee. Kas.; H. W. Diggins, Springfield, Mo.; J. H. Sullivan, Memphis, Tenn.
Roadmasters—L. K. Spafford, Kansas City, Mo.; J. E. Beck, Jonesboro, Ark.

KANSAS CITY, ST. JOSEPH & COUNCIL BLUFFS—Gauge, 4-8½. Miles operated, 310. No. of locomotives, 38; passenger cars, 31; freight and miscellaneous cars, 983.
President—Henry Parkman, Boston, Mass.
General Superintendent—J. F. Barnard, St. Joseph, Mo.
Assistant General Superintendent—D. H. Winton, St. Joseph, Mo.
Chief Engineer—C. C. Chandler, St. Joseph, Mo.
Secretary and Treasurer—E. E. Pratt, Boston, Mass.
Auditor and Assistant Treasurer—C. M. Carter, St. Joseph, Mo.
General Passenger and Ticket Agent—A. C. Dawes, St. Joseph, Mo.
General Freight Agent—E. J. Swords, St. Joseph, Mo.
Purchasing Agent—Wm. Irving, Chicago.
Fuel and Supply Agent—A. B. Barnard, St. Joseph, Mo.
Master Mechanic—F, A. Chase, St. Joseph, Mo.
Foreman Car Shop—Thomas Aylesbury, St. Joseph, Mo.
Foreman Paint Shop—C. F. Harrall, St. Joseph, Mo.
Roadmaster—Joseph Hayward, St. Joseph, Mo.

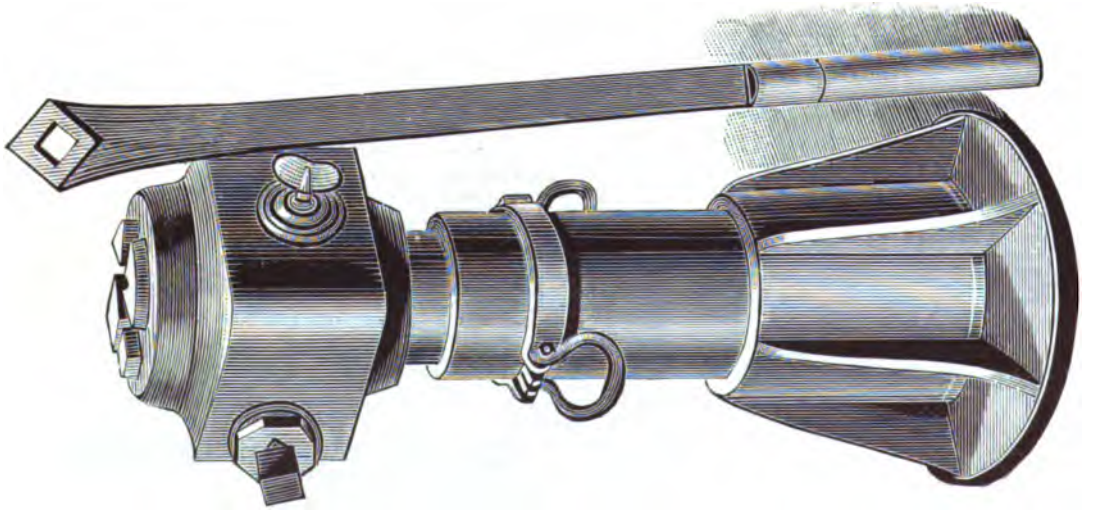
KENT COUNTY, SMYRNA & DELAWARE BAY—(See Baltimore & Delaware Bay.)

KENTUCKY & SOUTH ATLANTIC—Gauge, 3. Miles operated, 23. No. of locomotives, 3; passenger cars, 2; freight and miscellaneous cars, 52.
President— E. Zimmerman, Cincinnati, Ohio.
Vice President—C. W. West, Cynthiana, Ky.
General Supt., Purchasing Agent. and Road Master—George B. Harper, Mt. Sterling, Ky.
Chief Engineer—M. L. Lum, Winchester, Ky.
Secretary and Auditor—J. M. Kelly, Mt. Sterling, Ky.
General Passenger and Freight Agent—G. Brashears, Cincinnati.
Master Mechanic—James Hamilton, Mt. Sterling, Ky.
Foreman of Car Repairs—J. Coppage, Mt. Sterling, Ky.

KENTUCKY CENTRAL—Gauge, 4-9. Miles operated, 220; No. of locomotives, 27; passenger cars, 35; freight and miscellaneous cars, 656.
President—B. S. Cunningham, Cincinnati, O.
Vice President—John Echols, Louisville, Ky.
General Superintendent—G. W. Bender, Covington, Ky.
Chief Engineer—M. L. Lum, Winchester, Ky.
Assistant Chief Engineer—Geo. W. Lewis, Covington, Ky.
Secretary and Treasurer.Chas. H. Bronson, Covington, Ky.
Train Master—L. A. Boyd, Paris, Ky.
General Passenger and Freight Agent—Chas. L. Brown, Covington, Ky.
Master Mechanic—A. H. Watts, Covington, Ky.
Master Car Builder—J. L. Hackathorn, Covington, Ky.
Roadmaster—Geo. Collier, Paris, Ky.
[*Note.*—This road is operated as a division of the Chesapeake & Ohio from March 1. The change was made after the list was in type and we are not notified of the official changes.]

KINGSTON & PEMBROKE—Gauge, 4-8½. Miles operated, 105. No. of locomotives, 9; passenger cars, 7; freight and miscellaneous cars, 210.
President—C. F. Gildersleeve. Kingston, Can.
Vice President—I. D. Flower, New York.
General Superintendent—B. W. Folger, Kingston, Can.
Assistant General Superintendent—I. H. Taylor, Kingston, Can.
Chief Engineer—T. W. Nash, Kingston. Can.
Secretary and Treasurer—Geo. Osborne, Kingston, Can.
General Ticket and Freight Agent—D. Swift, Kingston, Can.
Master Mechanic—Fred Clark, Kingston, Can.
Roadmaster—E. S. Coon. Kingston, Can.

"RELIANCE" HYDRAULIC JACKS,



MANUFACTURED BY

PHILIP S. JUSTICE & CO.,

14 N. Fifth Street, PHILADELPHIA, PA.

MADE IN THE FOLLOWING SIZES:

15 Tons, of 12 inch lift and 18 inch lift.
20 " " " " " " "
30 " " " " " " "

NOT LIABLE TO GET OUT OF REPAIR,

— AND —

Superior to any Jack in the Market.

SEND FOR CIRCULAR.

KNOX & LINCOLN—Gauge, 4-8½. Miles operated, 49. No. of locomotives, 6; Passenger cars, 9; freight and miscellaneous cars, 95.
President—John T. Berry, Rockland, Me.
Superintendent, General Passenger, Freight and Purchasing Agent—C. A. Coombs, Bath, Me.
Secretary—Edmund Wilson, Thomaston, Me.
Treasurer—F. H. Low, Bath, Me.
Master Mechanic—William A. Fields, Bath, Me.
Master Car Builder—Charles L. Turner, Bath, Me.
Road Master—William B. Ludwig, Waldoboro, Me.

KNOXVILLE & AUGUSTA—Gauge, 5. Miles operated, 116.
President—R. N, Hood, Knoxville, Tenn.
General Manager—J. M. Hood, Marysville, Tenn.
Secretary—Skipwith Wilmer, Baltimore, Md.
Treasurer, Gen'l Pass. and Freight Agent—Chas. Binger, Marysville, Tenn.
Master Mechanic—James Pickens, Marysville, Tenn.
Roadmasters—Patrick Mackey, Knoxville, Tenn.; Dennis Johnson, Marysville, Tenn.

LAC LA BELLE & CALUMET—Gauge, 3. Total miles, 32. Miles operated. 8.
President—Henry C. Davis, 205 Walnut place, Philadelphia.
Vice President—Edward Hoopes, 205 Walnut place, Philadelphia.
Secretary and Treasurer—Geo. H. Lewars, 205 Walnut place, Philadelphia.
Superintendent—Chas. H. Palmer, Jr., Delaware Mine P. O., Keweenaw county, Mich.

LA CLEDE & CREVE CŒUR LAKE—(See Missouri Pacific.)

LACKAWANNA & PITTSBURGH—Gauge, 4-8½. Miles operated, 94. No. of locomotives, 15; passenger cars, 19; freight and miscellaneous cars, —.
President—Archer N. Martin, 34 Pine st., New York.
Vice President—Frank S. Smith, Angelica, N. Y.
General Superintendent—R. M. Patterson, Rochester, N. Y.
Assistant General Superintendent—W. O. Chapman, Friendship, N. Y.
Chief Engineer—J. S. Peter, Angelica, N. Y.
Secretary and Treasurer—Chas. E. Kimball, 34 Pine st., New York.
Auditor—M. S. Blair, Angelica, N. Y.
General Passenger, Ticket, Freight, Purchasing and Fuel Agent—P. W. Coyle, Friendship, N. Y.
Master Mechanic—C. E. Turner, Olean, N. Y.
Roadmaster—Hugh Hutinson, Angelica, N. Y.

LAKE ERIE & WESTERN—Gauge, 4-8½. Miles operated, 386. No. of locomotives, 53; passenger cars, 23; freight and miscellaneous cars, 1,678.
President—C. R. Cummings, 208 First National Bank, Chicago, Ill.
Vice President—J. H. Cheney, Bloomington, Ill.
General Superintendent—D. S. Hill, Bloomington.
Chief Engineer—T. H. Perry, Bloomington.
Secretary and Treasurer—B. G. Mitchell, Metropolitan Nat. Bank, New York.
Assistant Treasurer—A. D. Thomas, Bloomington, Ill.
Auditor—A. J. Castater, Bloomington.
General Passenger, Ticket and Baggage Agent—G. W. Smith, Bloomington,
General Freight Agent—W. S. Weed, Bloomington.
Purchasing and Fuel Agent—T. H. Perry, Bloomington.
Superintendent Motive Power and Machinery—H. L Cooper, Lima, O.
Foremen of Locomotive Repairs—L. Brooksmith, Lafayette, Ind.; M. Soper, Sandusky, O.; W. H. Fultz, Bloomington, Ill.
Road Masters—W. W. Wentz, Lafayette, Ind.; F. X. Galarneau, Lima, O.
Supervisor Bridges and Buildings—F. F. Hagadorn, Muncie, Ind.

LAKE GEORGE & MUSKEGON RIVER—Gauge, 4-8½. Miles operated, 20. No. of locomotives, 4; cars, 79. (A lumber road exclusively.)
General Manager—W. S. Gerrish, Muskegon, Mich

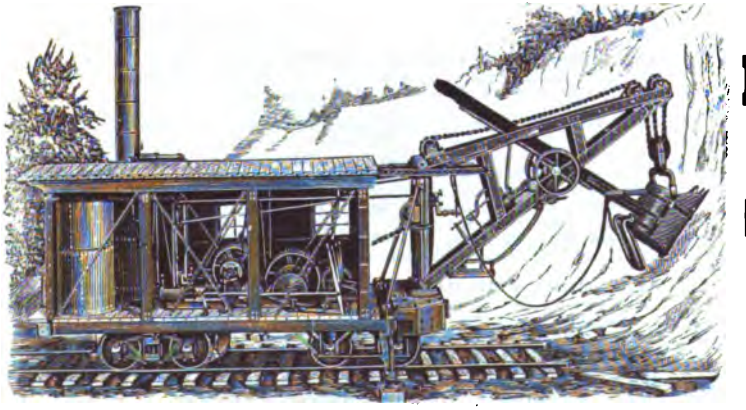
LAKE TAHOE—Gauge, 3. Miles operated, 10. No. of locomotives, 3; freight and miscellaneous cars, 55. (The road is the property of the Carson & Tahoe Lumber and Flume Co., and was built for the exclusive use of that company. It is not a passenger road.)
President—D. L. Bliss, Carson City, Nev.
General Superintendent—J. T. Rogers, Glenbrook, Douglas county, Nev.
Master Mechanic—T. Morrin, Glenbrook, Nev.
Foreman of Car Repairs—A. G. O'Brine, Glenbrook, Nev.
Roadmaster—P. Mansfield, Glenbrook, Nev.

LAKE SHORE & MICHIGAN SOUTHERN—Gauge, 4-8½. Miles operated, 1,405.56. No. of locomotives, 553; passenger cars, 186; freight and miscellaneous cars, 16,756.
Chairman of Board of Directors—Wm. K. Vanderbilt, New York.
President and General Manager—John Newell, Cleveland, O.
Vice President, Treasurer and Secretary—E. D. Worcester, New York.
Assistant Treasurer and Secretary—N. Bartlett, Cleveland, O.
Assistant General Manager—Addison Hills, Cleveland, O.
General Superintendent—P. P. Wright, Cleveland, O.

BUCYRUS FOUNDRY & MAN'F'G COMPANY,

MAKERS OF

The "Thompson" Improved Iron Steam Shovel and Derrick,



STEAM DREDGES AND TUNNEL MACHINES,

Hand Cars, Push Cars, Iron Cars, Mine Cars,

BALLAST UNLOADERS.

Improved Tramway Locomotives,

AND

EVERY VARIETY OF R.. R. CASTINGS

— AND —

CONTRACTORS' EQUIPMENTS.

Write for Photographic Catalogue and Estimates.

Division Superintendents—C. P. Crouch, Cleveland, O.; Thos. Flesher, Jr., Cleveland, O.; J. E. Curtis, Toledo, O.; A. M. Tucker, Elkhart, Ind.; A. G. Amsden, Chicago; G. H. McIntyre, Youngstown, O.; T. J. Charlesworth, Detroit, Mich.; W. H. Canniff, Hillsdale, Mich.; M. E. Wattles, Kalamazoo, Mich.
Purchasing Agent—A. C. Armstrong, Cleveland, O.
Auditor—C. P. Leland, Cleveland, O.
Chief Engineer—L. H. Clarke, Cleveland, O.
Engineer Lake Shore Division—L. C. Brewer, Cleveland, O.
Engineer Michigan Southern Division—Benj. Reece, Toledo, O.
Coal Supply Agent—J. N. Brewer, Cleveland, O.
Superintendent of Bridges—G. M. Reid, Cleveland, O.
General Freight Agent—George H. Vaillant, Cleveland, O.
General Passenger Agent—W. P. Johnson, Chicago.
General Ticket Agent—J. W. Cary, Cleveland, O.
General Baggage Agent—J. T. Freeman, Cleveland, O.
Superintendent of Motive Power—G. W. Stevens, Cleveland, O.
Master Mechanics—J. S. Graham, Buffalo, N. Y.; L. O. Gassett, Cleveland, Cleveland, O.; J. M. Sanborn, Norwalk, O.; G. W. Stevens, Elkhart, Ind.
General Master Car Builder—John Kirby, Cleveland, O.
Master Car Builders—A. C. Robson, Buffalo, N. Y.; J. Withycomb, Cleveland, O.; W. Smith, Norwalk, O.; F. O. Bray, Adrian, Mich.
Roadmasters—W. H. Courtenay, Erie, Pa.; O. D. Richards, Youngstown, O.; H. H. Houghton, Elyria, O.; Geo. B. Houghton, Norwalk, O.; T. F. Whittelsey, Englewood, Ill.; J. Pool, La Porte, Ind.; J. Anson, Toledo, O.; John Stuart, Coldwater, Mich.; Geo. Storrs; Kalamazoo, Mich.; G. W. Merrill, Hillsdale, Mich.; Chas. Stein, Hillsdale, Mich.; H. J Corbus, Adrian, Mich.; E. H. Place, Monroe, Mich.

LAUREL FORK & SAND HILL—Gauge, 4-9. No. of locomotives, 2; passenger cars, 1; freight and miscellaneous cars, 3.
President, General Manager and Purchasing Agent—W. C. Stiles, Jr., Volcano, W. Va.
Secretary—F. H. Williams, 209 South Third st., Philadelphia.
Treasurer—H. A. Stiles, 209 South Third st., Philadelphia.

LEBANON SPRINGS—Gauge, 4-8½. Miles operated, 64½ No. of locomotives, 5; passenger cars, 6; freight and miscellaneous cars, 20.
Receiver—Wm. V. Reynolds, 59 North Pearl st., Albany, N. Y.
General Manager—W. C. Van Alstyne, 59 North Pearl st., Albany, N. Y.
Chief Engineer—C. T. Church, 59 North Pearl st., Albany, N. Y.
General Passenger and Ticket Agent—E. A. Jaques, 59 N. Pearl st., Albany.
General Freight Agent—Joseph Child, 59 North Pearl st., Albany, N. Y.
Master Mechanic—Geo. Tefft, Chatham, N. Y.
Master Car Builder—R. E. Brimmer, Chatham, N. Y.
Roadmaster—C. E. Woodard, Bennington, Vt.

LEHIGH & HUDSON RIVER—Gauge, 4-8½. Miles operated, 63.2. No. of locomotives, 8; passenger cars, 10; freight and miscellaneous cars, 297.
President, General Manager and Purchasing Agent—Grinnell Burt, Warwick, N. Y.
Vice President—Chas. E. Noble, Morristown, N. J.
Superintendent—W. L. Anderson, Warwick, N. Y.
Chief Engineer—Chas. Caldwell, Newburgh, N. Y.
Secretary and Treasurer—Daniel B. Halstead, New York.
Auditor, General Passenger, Ticket and Freight Agent—John Sayer, Warwick, N. Y.
Assistant General Freight Agent—Frank E. Smith, Warwick, N. Y.
Master Mechanic—S. Mills, Warwick, N. Y.
Supervisor—P. W. Barrett, Warwick, N. Y.

LEHIGH & LACKAWANNA—(Operaetd by Philadelphia & Reading.) Gauge, 4-8½. Miles operated, 31.
President—F. C. Yarnall, 226 S. Third street, Philadelphia
Secretary and Treasurer—S. Shepherd, Philadelphia.
Auditor—C. F. Howell, Philadelphia.
Agent—H. B. Fish, Wind Gap, Pa.
Purchasing Agent—E. Hill, 226 Third st., Philadelphia,

LEHIGH VALLEY; PENNSYLVANIA & NEW YORK AND GENEVA, ITHACA & SAYRE—Gauge, 4-8½. Miles operated, 322. No. of locomotives, 292; passenger cars, 130; freight and miscellaneous cars, 30,474.
President—Elisha P. Wilbur, Bethlehem, Pa.
Vice President—C. Hartshorne, Philadelphia.
President's Assistant and General Agent—Wm. H. Sayre, Bethlehem, Pa.
General Superintendent—H. Stanley Goodwin, Bethlehem, Pa.
Superintendent Pennsylvania & New York and Geneva, Ithaca & Sayre Railroads—Wm. Stevenson, Sayre, Pa.
Chief Engineer—A. W. Stedman, Mauch Chunk, Pa.
Secretary—John R. Fanshawe, Philadelphia.
Treasurer and Purchasing Agent—W. Chas. Alderson, Philadelphia.
Auditor—Isaac McQuilkin, Philadelphia.
Traffic Manager—J. Taylor, Mauch Chunk, Pa.
General Passenger Agent—E. B. Byington, Mauch Chunk, Pa.
General Ticket Agent—A. W. Nonnemacher, Mauch Chunk, Pa.

POST & COMPANY,

MANUFACTURERS OF

Interior Passenger Car Furnishings

IN ALL NEW STYLES, DESIGNS AND FINISHES,

HEAD LIGHTS, LAMPS, CAR LOCKS, LANTERNS, ETC.

DEALERS IN

RAILWAY SUPPLIES, METALS AND MACHINERY,

Spikes, Splices, Bolts and Track Materials.

ESTIMATES FURNISHED. Send for Illustrated Catalogue.

POST & CO., Cincinnati, Ohio, U. S. A.

Assistant General Freight Agent—J. H. Heckman, Mauch Chunk Pa.
Master Mechanics—John I. Kinsey, South Easton, Pa.: D. Clark, Hazleton, Pa.; John Campbell, Delano, Pa.; P. Hofecker, Wetherly, Pa.; A. Mitchell, Wilkes Barre, Pa.; J. N. Weaver, Sayre, Pa.
Master Car Builder—John S. Lentz, Packerton, Packerton, Pa.
Superintendent Coal Branches—Jas. I. Blakeslee, Mauch Chunk, Pa.
Division Sup'ts—Jas. Donnelly, Easton, Pa.; A. Mitchell, Wilkes Barre, Pa.
Roadmasters—John M. Rahm, Towanda, Pa.; Thos. McCarthy, Ithaca, N. Y.

LIGONIER VALLEY—Gauge, 4-9. Miles operated, 10½. No. of locomotives, 2; passenger cars, 3; freight and miscellaneous cars, 8.
President—S. H. Baker, Latrobe, Pa.
Vice President—R. M. Graham, Ligonier, Pa.
General Manager—T. A. Mellon, Pittsburgh, Pa.
General Superintendent, Traffic Manager and Purchasing and Fuel Agent—Geo. Senft, Ligonier, Pa.
Secretary and Treasurer—A. W. Mellon, Pittsburgh, Pa.
Master Mechanic—S. L. French, Ligonier, Pa.
Roadmaster—John Rhay, Ligonier, Pa.

LITTLE ROCK & FORT SMITH AND LITTLE ROCK, MISSISSIPPI RIVER & TEXAS—Gauge, 4-8½. Miles operated, 327. No. of locomotives, 24; passenger cars, 30; freight and miscellaneous cars, 638.
President—First, J. H. Converse: second, E. Atkins, Boston, Mass.
Vice President—Jesse Turner, Van Buren, Ark.
General Manager—Henry Wood, Little Rock, Ark.
General Superintendent and Purchasing Agent—Theo. Hartman, Little Rock.
Secretary—First, H. G. Allis; second, J. A. Woodson, Little Rock, Ark.
Treasurer—Jos. Kampman, Boston, Mass.
Auditor—H. G. Allis, Little Rock, Ark.
Traffic Manager—J. S. Woodson, Little Rock, Ark.
Assistant Traffic Manager—R. D. Lewis, Little Rock, Ark.
Master Mechanic—F. Hufsmith, Little Rock, Ark
Foremen of Locomotive Repairs—First, B. Hallman, Argenta, Ark; second, J. W. Addis, Arkansas City, Ark.
Master Car Builder—Jas. Malone, Argenta, Ark.
Roadmasters—First, Wm. McLeod; second, Thos. Daley, Argenta, Ark.
Master of Bridges and Buildings—Jas. McFadden, Little Rock, Ark.

LONG ISLAND—Gauge, 4-8½. Miles operated, 352. No. of Locomotives, 92; passenger cars, 317; freight and miscellaneous cars, 633.
President—Austin Corbin, 115 Broadway, New York.
Vice President—J. R. Maxwell, 115 Broadway, New York.
General Superintendent—L. D. Barton, Long Island City, N. Y.
Chief Engineer—Anthony Jones, Long Island City, N. Y.
Secretary—E. B. Hinsdale, 115 Broadway, New York.
Treasurer—F. W. Dunton, 115 Broadway, New York.
Auditor—J. Carlsen, Long Island City, N. Y.
General Traffic Manager—Chas. M. Heald, Long Island City, N. Y.
Purchasing Agent—B. Norton, Long Island City, N. Y.
Master Mechanic—C. A. Thomson, Long Island City, N. Y.
General Roadmaster—Geo. W. Offutt, Long Island City, N. Y.

LOUISVILLE & NASHVILLE—Gauge, L., C. & L. Division, 4-9¼; St. L. Division, 4-9; L., N., C. & W. P. Division, 3; other divisions, 5. Miles operated, 2,186. No. of locomotives, 380; passenger cars, 329; freight and miscellaneous cars, 10,791.
President—C. C. Baldwin, 52 Wall st., New York.
Assistant to President—A. M. Quarrier, Louisville, Ky.
Vice Presidents—(1st) Milton H. Smith, Louisville, Ky.; (2d) Geo. A. Washington, Cedar Hill, Tenn.; (3d) F. D. Carley, Louisville, Ky.
General Manager—B. Dunham, Louisville.
General Sup't Southern Divisions—J. T. Harahan, New Orleans, La.
Consulting Engineer—J. H. Vaughan, Louisville.
Resident Engineer—R. Montfort, Louisville.
Secretary—Willis Ranney, Louisville.
Local Treasurer—C. B. Simmons, Louisville.
Comptroller—C. Quarrier, Louisville.
General Passenger Agent—C. P. Atmore, Louisville.
Assistant General Ticket Agent—J. A. Boyd, Louisville.
General Baggage Agent—J. B. Browning, Louisville.
General Freight Agent—J. M. Culp, Louisville.
Purchasing Agent—P. P. Huston, Louisville.
Fuel Agent—D. C. Knowles, Louisville.
Sup't Motive Power and Machinery—R. Wells, Louisville.
Master Mechanic—Pulaski Leeds, Louisville.
Division Master Mechanics—J. W. Luttrell, Louisville, Ky.; J. C. Clifford, Bowling Green, Ky.; J. V. Slusser, Memphis, Tenn.; W. P. Pike, Nashville, Tenn.; C. W. White, Birmingham, Ala.; Wm. Adair, Mobile, Ala.; Thomas Walsh, Mt. Vernon, Ill.; W. D. Robb, Pensacola, Fla.; J. N. Hall, Montgomery, Ala.; H. W. Gobel, Owensboro, Ky.
Master Car Builder—J. W. Sannaman, Louisville, Ky.
Master Car Painter—Jos. Murphy, Louisville, Ky.
Division Superintendents—C. Parker, Evansville, Ind.; J. G. Metcalfe, Louis

ville, Ky.; James Geddes, Nashville, Tenn.; E. Marsh, Birmingham. Ala.; M. S. Belknap, Montgomery, Ala.; E. O. Saltmarsh, Pensacola, Fla.; O. M. Dunn, New Orleans. La.; Wm. Colcamp, Memphis, Tenn.; L. Hege, Henderson, Ky.; T. T. Craik, Columbia, Tenn.; M. M. Newbold, Owensboro, Ky.
Roadmasters—J. M. Hall, Louisville, Cincinnati & Lexington Division. Louisville, Ky.; J. T. Craik, Columbia, Tenn.; J. T. Ansley, Montgomery, Ala.; W. W. Ansley, Birmingham, Ala.; F. M. Ansley, Richmond Junction; J. B. Clifton, Pensacola, Fla.; E. S. Dulin, New Orleans, La.; B. F. Stroud, Paris, Tenn.; T. B. Robson, Evansville. Ind.; R. C. Hunt, Louisville, Ky.

LOUISVILLE & WADLEY—Gauge, 4-8½. Miles operated, 10 No. of locomotives, 1; passenger cars, 2; freight and miscellaneous cars, 1.
President and General Superintendent—Wm. Donnovan, Wadley, Ga.
Vice President—J. G Cain, Louisville, Ga.
Secretary—G. W. Warren, Louisville, Ga.
Treasurer—J. C. Little, Louisville, Ga,
Auditors—F. A. Singenfield, T. H. Warr, Louisville, Ga.
General Ticket Agent—F. H. Robinson, Louisville, Ga.

LOUISVILLE, EVANSVILLE & ST. LOUIS—Gauge, 4-8½. Miles operated, 253. No. of locomotives, 24; passenger cars, 21; freight and miscellaneous cars, 1,011.
President—Jonas H. French, Boston, Mass.
Assistant to President—Geo. F. Evans, Louisville, Ky.
Engineer of Roadway, Etc.—W. J. Sherman, Louisville.
Secretary and Treasurer—Geo. F. Evans, Louisville.
Auditor—John J. Collier, Louisville.
Master of Transportation—J. M. Phillips, New Albany, Ind.
General Passenger, Ticket and Freight Agent—Jas. S. Clark, Louisville, Ky.
General Baggage Agent—J. B. Browning, Louisville.
Purchasing Agent—W. H. Field, New Albany, Ind,
Fuel Agent—R. W. Hardon, Louisville, Ky.
Master Mechanic and Car Builder—Geo. N. Sceets, Evansville, Ind.
Roadmasters—J. H. Snell and G. R. Trubill, Huntingburg, Ind.

LOUISVILLE, NEW ALBANY & CHICAGO—Gauge, 4-8½. Miles operated, 476. No. of locomotives, 56; passenger cars, 42; freight and miscellaneous cars, 3,773.
President—James Roosevelt, Hyde Park, N. Y.
First Vice President—R. G. Rolston, New York.
General Superintendent—John MacLeod, Louisville,
Chief Engineer—J. H. Pearson, Louisville.
Secretary and Treasurer—W. H. Lewis, Louisville.
Auditor and Purchasing Agent—H. O. Nourse, Louisville.
General Freight, Passenger and Ticket Agent—A. B. Southard, Louisville.
General Baggage Agent—J. B. Browning, Louisville.
Master Mechanic and Car Builder—Josiah Bettis, New Albany, Ind.
Division Sup'ts—W. G. Sala, Chicago, Ill.; W. N. Marshall, New Albany, Ind.
General Roadmasters—J. A. Rodgers, Louisville, Ky.; J. P. Doom, Frankfort, Ind.; C. B. Robinson, New Albany, Ind.

LOUISVILLE, NEW AL ANY & CORYDON—Gauge, 4-8½. Miles operated, 8. No. of locomotives, 1; passenger cars, 2.
President and Manager—St. John Boyle, Louisville, Ky.
Vice President—S. M. Stockslager, Corydon, Ind,
Secretary—Thos. McGrain, Corydon, Ind.
Auditor and General Ticket and Freight Agent—John J. Collier, Louisville, Ky

LOUISVILLE, NEW ORLEANS & TEXAS—(Under construction). Gauge, 4-8½.
President—R. T. Wilson, New York.
Superintendent—J. R. Grant, New Orleans, La.

MAINE CENTRAL—Gauge, 4-8½. Miles operated, 486. No. of locomotives, 76; passenger cars, 86; freight and miscellaneous cars, 2,244,
President—George E. B. Jackson, Portland, Me.
Vice President and General Manager—Payson Tucker, Portland, Me.
Treasurer—J. A. Linscott, Portland, Me.
Auditor—George W. York, Portland, Me.
General Passenger and Ticket Agent—F. E. Boothby, Portland, Me.
General Baggage Agent—H. H. Towle, Portland, Me.
General Freight Agents—Eastern, F. W. Cram, Bangor, Me.; Western, W. S. Eaton, Portland, Me.
General Master Mechanic—I. K. Russell, Waterville, Me.
Master Mechanics—F. W. Knight, Portland, Me.; A. O. Bailey, Mattawamkeag, Me.; John Ellis, Waterville, Me.
Master Car Builder—C. H. Kenison, Waterville, Me.
Master Car Painters—R T. Beayley, Waterville, Me.; E. Hartshorn, Augusta, Me.
Roadmasters—George Nevens, Brunswick, Me.; George W. Wagg, Auburn, Me.; V. H. Foss, Bangor, Me.
Bridge Inspector—D. A. Booker, Brunswick, Me.

MANHATTAN ELEVATED—Gauge, 4-8½. Miles operated, 32. [illegible] locomotives, 228; passenger cars, 652; freight and miscellaneous [illegible]

President—Jay Gould, 71 Broadway, N. Y.
Vice President—R. M. Gallaway, 71 Broadway, New York.
General Manager and Purchasing Agent—F. K. Hain, 71 Broadway, New York.
Superintendent of Transportation—C. L. Green, 4 Front st., New York.
Chief Engineer—Robert I. Sloan, 71 Broadway, New York.
Assistant Engineers—John Waterhouse, Ed. A. Trapp, 71 Broadway, N. Y.
Secretary and Treasurer—D. W. McWilliams, 71 Broadway, New York.
Auditor—E. F. J. Gaynor, 71 Broadway, New York.
General Passenger and Ticket Agent—C. P. McFaddin, 71 Broadway, N. Y.
Superintendent Motive Power and Machinery—T. W. Peeples, Ninety-eighth st. and Third av.
Master Car Builder—H. A. Webster, Ninety-eighth st. and Third av.
Roadmaster—Robert Black, New York.
Supervisors—George Anderson, Second av. line; Herman Harms, Third av. line; John H. Simmons, Sixth av. line; George B. Whitney, Ninth av. line; South Ferry Station, New York.

MANITOBA & NORTHWESTERN—Gauge, 4-8½. Eighty miles completed and 374 more to be built by the St. Paul Construction Co., A. B. Stickney, President, St. Paul, Minn.
President—Andrew Allen, Montreal, Que.
Vice President—Duncan McArthur, Winnipeg, Man.
Secretary—F. H. Brydges, Winnipeg, Man.
Treasurer and Superintendent—W. R. Baker, Winnipeg, Man.

MARIETTA & NORTH GEORGIA—Gauge, 3. Miles operated, 62. No. of locomotives, 3; passenger cars, 4; freight and miscellaneous cars, 36.
President—Jos. Kinsey, Cincinnati, Ohio.
General Superintendent and Purchasing Agent—J. B. Glover, Marietta Ga.
Chief Engineer—F. S. Wallace, Ellijay, Ga.
Secretary—H. N. Hammett, Mari[illegible]
Treasurer—L. W. Young, Boston [illegible]
General Passenger and Freight [illegible] Power [illegible]etta, Ga.
Master Mechanic—Charles Che[illegible] Ga.

MARQUETTE, HOUGHTO[illegible] [illegible] 4-8½. Miles operated, 140. No. of loco[illegible] [illegible]4; freight and [illegible] cars 2,604.
[illegible] Higginson
[illegible]—Samuel [illegible]
[illegible] H. H. C[illegible]
[illegible]

Auditor—S. J. Little, Marquette, Mich.
General Ticket Agent—W. B. McComb, Marquette, Mich.
General Freight Agent—A. S. Parks, Marquette, Mich.
Purchasing Agent—M. B. McGee, Marquette, Mich.
Master Mechanic—W. A. Thompson, Marquette, Mich.
Master Car Builder—H. D. Lyons, Marquette, Mich.
Roadmaster—Joseph Guy, Ishpeming, Mich.

MARYLAND CENTRAL—Gauge, 3. Miles operated, 45. No of locomotives, 6; passenger cars, 20; freight and miscellaneous cars, 140.
President—William Waters, Waterval, Md.
Vice President and Financial Secretary—William Gilmor, Baltimore, Md.
Master of Transportation and Purchasing Agent—O. R. Ford, Baltimore.
Chief Engineer—E. B. Pleasant, Forest Hill, Md.
Treasurer—Caleb Taylor, Baltimore.
Auditor—Charles Hatter, Baltimore.
General Passenger, Ticket and Baggage Agent—S. C. Boyd, Baltimore.
Supt. Motive Power and Machinery and Master Car Builder—George Beaver Baltimore.

McCOMB, DESHLER & TOLEDO (See Cincinnati, Hamilton & Dayton.

MEMPHIS & CHARLESTON—(See East Tennessee, Virginia & Georgia,

MEMPHIS & LITTLE ROCK—Gauge, 5. Miles operated, 135. No. of locomotives, 14; passenger cars, 12; freight and miscellaneous cars, 285.
President—R. S. Hayes, St. Louis, Mo.
General Manager and Purchasing Agent—E. K. Sibley, Little Rock, Ark.
General Supt. and Chief Engineer—H. G. Fleming, Memphis, Tenn.
Treasurer—A. H. Calef, New York.
Auditor—C. H. Dolber, Little Rock, Ark.
General Passenger, Ticket and Freight Agent—D. Miller, Little Rock, Ark.
General Baggage Agent—M. Toomey, Little Rock, Ark.
Train Dispatcher—A. J. Whitney, Memphis, Tenn.
Master Mechanic—Thomas Rennell, Argenta, Ark.
Master Bridges and Buildings—W. R. Damon, Memphis, Tenn.
Roadmaster—A. McAvoy, Brinkley, Ark.

MEXICAN RAILWAY—Gauge, 4-8½. Miles operated, 293. No. of locomotives, 42; passenger cars, 63; freight and miscellaneous cars, 533.
President—Robt. W. Crawford, 45 New Broad st., London, Eng.
Vice President—Thos. C. Sanders, 45 New Broad st., London, Eng.

EAMES VACUUM BRAKE CO.,

WATERTOWN, - - - NEW YORK,

MANUFACTURERS OF

PLAIN AND AUTOMATIC POWER BRAKES.

This brake is the cheapest, most simple, durable and efficient power brake in the market. It may be seen in operation on 130 roads, and on the Manhattan Elevated Railway it makes over 69,000 stops daily—more than all other power brakes in the United States.

UNEQUALLED

DeGolyer's Railway Varnishes,

MANUFACTURED BY

DE GOLYER & BROS.,

CHICAGO, - - - ILLS.

General Manager—E. W. Jackson, Plazuela De Guardiola, City of Mexico.
Chief Engineer—Geo. Foote, Plazuela De Guardiola, City of Mexico.
Auditor—E. Y. Penney, Plazuela De Guardiola, City of Mexico.

MEXICAN CENTRAL (Limited)—Gauge, 4-8½. Miles operated, 1,225.
President—Thomas Nickerson, Boston, Mass.
Vice Presidents—Robert R. Symon, New York; Levi C. Wade, Boston.
General Manager—D. B. Robinson, City of Mexico.
General Superintendent—D. Mackenzie, Paso del Norte, Mexico.
Chief Engineers—Chihuahua Division, Lewis Kingman, Paso del Norte, Mex.; Mexico Division, R. E. Briggs, Aguas Calientes, Mex.; Chas. C. Upham, Tampico, Mex.; J. E. Early, Tepic, Mex.
Clerk and Treasurer—S. W. Reynolds, Boston.
Assistant Treasurer—F. W. Howard, City of Mexico.
Auditor—J. H. Goodspeed, Boston.
Assistant Auditor—D. B. Hunt, City of Mexico.
General Passenger and Freight Agent—F. L. Parker, City of Mexico.
Assistant General Freight and Passenger Agent—M. H. King, Paso d l Norte.
Fuel Agent—George C. Cleveland, Aguas Calientes, Mex.
General Matèrial Agent—W. G. Nevin, City of Mexico.
Superintendent Telegraph—C. F. West, City of Mexico.
Master Mechanics—Chihuahua Division, J. G. McCuen, Paso del Norte; Mexico Division, F. W. Johnstone, City of Mexico.
Superintendent Road Department—F. E. Nelson, Aguas Calientes, Mex.
Division Superintendents—R. E. Comfort, City of Mexico; A. J. Jarvis, Silao, Mex.; Charles E. Payne, San Blas, Mex.; Edw. A. Whorf, Tampico, Mex.

MEXICAN NATIONAL—Gauge, 3. Miles operated, 823.3. No. of locomotives, 56; passenger cars, 109; freight and miscellaneous cars, 1,377.
President—W. J. Palmer, 47 William st., New York.
First Vice President—Thos. C. Purdy, City of Mexico.
Second Vice President—Edwin Lewis, 47 William st., New York.
General Manager—G. Clinton Gardner, 47 William st., New York.
Superintendents—W. E. Lewis, City of Mexico; C. A. Merriam, Laredo, Tex.; M. Quin, Galveston, Tex.; R. C. Peebles, Acambaro, Mexico.
Chief Engineer—E. A. Handy, City of Mexico.
Consulting Engineer—W. Cross Buchanan, City of Mexico.
Division Engineer—F. E. Butterfield, Matamoras, Mex.
Secretary—W. W. Nevin, 47 William st., New York.
Treasurer and Purchasing Agt.—Wm. M. Spackman, 47 William st., New York.
Auditors and Cashiers—B. W. Thacher, Laredo, Tex.; Henry P. Webb, City of Mexico.

General Passenger and Freight Agents—W. Morcom, City of Mexico, and L. W. Stevenson, Laredo, Tex.
Foremen Motive Power—J. C. Munro, City of Mexico: John Grace, Laredo, Tex.; E. T. Deely, Corpus Christi, Texas; S. D. Trimbath, Matamoras, Mex.

MEXICAN, ORIENTAL, INTEROCEANIC & INTERNATIONAL (Length of Main Line, Laredo to City of Mexico, 680 miles—Under construction)—Gauge, 4-8½.
President—Jay Gould, New York.
Vice President—Frank S. Bond, New York.
Secretary—O. D. Ashley, New York.
Treasurer—Geo. J. Gould, New York.
Chief Engineer—B. S. Wathen, Laredo, Tex.
Agent in Mexico—J. W. Wexel.
G. M. Dodge, 195 Broadway, New York, is the President of the Oriental Construction Company, which has the contract for building this road.

MICHIGAN & OHIO—Gauge, 4-8½. Miles operated, 156.
President—J. A. Latcha, Toledo, O.
Treasurer—F. A. Brown, New York.
Secretary—L. M. Schwan, New York.
Superintendent and General Freight and Passenger Agent—Luther Allen, Toledo, O.
Auditor—F. S. Anable, Toledo.
Purchasing Agent—H. H. Mitchell, Toledo.
Master Mechanic—D. J. Durrell, Toledo.
Engineer Maintenance of Way—W. L. Webb, Toledo.

MICHIGAN CENTRAL—Gauge, 4-8½. Miles operated, 1,492.9. No of locomotives, 357; passenger cars, 310; freight and miscellaneous cars, 10,914.
Chairman Board of Directors—C. Vanderbilt, New York.
President and General Manager—H. B. Ledyard, Detroit, Mich.
Vice President and Secretary—E. D. Worcester, New York.
Treasurer—Henry Pratt, New York.
Auditor—D. A. Waterman, Detroit.
General Superintendent—E. C. Brown, Detroit.
Chief Engineer—E. H. Phelps, Detroit.
General Freight Agent—J. A. Grier, Chicago.
General Passenger and Ticket Agent—O. W. Ruggles, Chicago.
Asst. General Passenger and Ticket Agent—F. I. Whitney, Chicago.
General Baggage Agent—H. P. Dearing, Chicago.
Purchasing Agent—Allan Bourne, Detroit.

General Master Mechanic—S. H. Edgerly, Jackson, Mich.
Division Master Mechanic—C. E. Smart, Bay City, Mich.
Master Car Builder—Robert Miller, Detroit, Mich.
Division Master Car Builder—Robert Potts, St. Thomas, Can.
Fuel Agent—A. F. Howland, Detroit.
Division Superintendents—J. B. Morford, St. Thomas, Can.; C. B. Bush, Jackson, Mich.; D. S. Sutherland, Detroit; W. A. Vaughn, Bay City, Mich.; R. H. L'Hommedieu, Chicago, Ill.
Superintendent Tracks and Bridges—A. G. Dailey, Detroit.

MIDDLEBURGH & SCOHARIE—Gauge, 4-8½. Miles operated, 6. No. of locomotives, 1; cars, 2.
President—G. N. Frisbie, Middleburgh, N. Y.
Vice President—J. Neville, Middleburgh, N. Y.
General Superintendent and Treasurer—P. S. Danforth, Middleburgh, N. Y.
Chief Engineer—D. Cameron, Middleburgh, N. Y.
General Passenger and Ticket Agent—G. L. Danforth, Middleburgh, N Y.
Master Mechanic and Roadmaster——I. Coons, Middleburgh, N. Y.

MIDLAND NORTH CAROLINA—(See Atlantic & North Carolina).

MIDLAND OF CANADA—(See Grand Trunk).

MILFORD & FRANKLIN AND PROVIDENCE & HOPKINTON—Gauge, 4-8½. Miles operated, 20½. No. of locomotives, 3; passenger cars, 4; freight and miscellaneous cars, 4.
President—Geo. Draper, Milford, Mass.
General Superintendent—E. T. Logee, Milford, Mass.
Treasurer—James E. Walker, Milford, Mass.
Auditor—H. W. Young, Milford, Mass.
Roadmaster—A. A. Goss, Franklin, Mass.

MILTON & SUTHERLIN (See Richmond & Danville)

MILWAUKEE, LAKE SHORE & WESTERN—Gauge, 4-8½. Miles operated, 380. No. of locomotives, 45; passenger cars, 32; freight and miscellaneous cars, 1,685.
President—F. W. Rhinelander, 62 Cedar st., New York.
Vice President—Wm. H. Guion, New York.
General Superintendent, Chief Engineer and Purchasing Agent—H. G. H. Reed, Milwaukee, Wis.
Superintendent—J. Donohue, Milwaukee, Wis.
Secretary—A. L. Cary, Milwaukee, Wis
Treasurer—Gordon Norrie, Milwaukee, Wis.
Auditor—C. F. Rand, Milwaukee, Wis.
Assistant Treasurer—A. D. Allibone, Milwaukee, Wis.
General Passenger & Freight Agent—H. F. Whitcomb, Milwaukee, Wis.
Fuel Agent—Geo. H. Anderson, Milwaukee, Wis.
Master Mechanic—John Hickey, Ledyard, Wis.
Foreman Paint Shop—Henry Herzog, Ledyard, Wis.
Division Superintendent—D. B. Curtis, Oshkosh, Wis.
Roadmasters—P. Plunkett, Clintonville, Wis.; Thos. Dwyer, Manitowoc, Wis.

MILWAUKEE NORTHERN AND WISCONSIN & MICHIGAN—Gauge, 4-8½ Miles operated, 229. No. of locomotives, 24; passenger cars, 28; freight and miscellaneous cars, 675.
President—Alfred M. Hoyt, New York city.
Vice President—James C. Spencer, Milwaukee, Wis.
General Superintendent—C. F. Dutton, Milwaukee, Wis.
Assistant Superintendent—H. M. Bell, Green Bay, Wis.
Chief Engineer Wisconsin & Michigan R.—C. S. Woodard, Green Bay, Wis.
Secretary—Geo. H. Noyes, Milwaukee, Wis.
Treasurer—Guido Pfister, Milwaukee, Wis.
Auditor—Robert Toombs, Milwaukee, Wis.
General Ticket Agent—F. P. Regan, Milwaukee, Wis.
General Freight Agent—J. J. Coleman, Milwaukee, Wis.
Master Mechanic—N. S. Kimball, Fort Howard, Wis.
Foreman of Locomotive Repairs—John Cannon, Fort Howard, Wis.
Foreman of Car Repairs—C. E. Schultz, Fort Howard, Wis.
Foreman Car Painters—J. L. Henderson, Fort Howard, Wis.
Roadmasters—B. Bowen, P. Neugent, Green Bay, Wis.

MINERAL RANGE—Gauge, 3. Miles operated, 13. No. of locomotives, 4; passenger cars, 4; freight and miscellaneous cars, 39.
President and General Manager—Charles E. Holland. Hancock, Mich.
Vice President—R. M. Hoar, Houghton, Mich.
Secretary and Treasurer—C. A. Wright, Hancock, Mich.
General Passenger, Freight and Purchasing Agent—W. H. Carr, Hancock, Mich
Master Mechanic and Car Builder—T. J. Shellhorn, Hancock, Mich.

MINNEAPOLIS & ST. LOUIS—Gauge, 4-8½. Miles operated, 423. No. of locomotives, 72; passenger cars, 33; freight and miscellaneous cars, 3,206.
President—R. R. Cable, Chicago, Ill.
Vice President and General Manager—W. H. Truesdale, Minneapolis, Minn.

Superintendent—T. E. Clarke, Minneapolis, Minn.
Chief Engineer—R. Angst, Minneapolis.
Secretary and Treasurer—Joseph Gaskell, Minneapolis.
Auditor—F. W. Partridge, Minneapolis.
General Passenger and Ticket Agent—S. F. Boyd, Minneapolis.
General Baggage Agent—J. D. Marsten, Chicago.
General Freight Agent—J. A. Hanley, Minneapolis.
Assistant General Freight Agent—T. A. Whitmore, Minneapolis.
Purchasing Agent—W. B. Palmer, Minneapolis.
Master Mechanic and Car Builder—Geo. F. Wilson, Minneapolis.
Master Car Painter—Jas. Mencin, Minneapolis.
Foremen of Locomotive Repairs—H. B. Stebbins, Albert Lea, Minn.; G. H. Webster, Ft. Dodge, Ia.; W. H. Whitaker, Minneapolis, Minn.
Roadmasters—P. M. McElroy, Minneapolis; Jas. Burke, Minneapolis; M. O'Brien, Waterville, Minn.; J. Madden, Waseca, Minn.; D. Connell, Fort Dodge, Ia.
Superintendent of Bridges and Buildings—W. B. Hixson, Minneapolis.

MINNEAPOLIS, LYNDALE & MINNETONKA—Gauge, 3. No. of locomotives, 5; passenger cars, 17; freight and miscellaneous cars, 21.
President and Purchasing Agent—Wm. McCrory, Minneapolis, Minn.
Vice President—Gen R. Brinkerhoff, Mansfield, O.
Chief Engineer—Geo. W. Cooley, Minneapolis, Minn.
Secretary and Auditor—T. J. Janney, Minneapolis, Minn.
Treasurer—S. E. Neilen, Minneapolis, Minn.
General Passenger Agent—R. S. Innes, Minneapolis. Minn.
Master Mechanic—T. W. Heintzelman, Minneapolis, Minn.
Roadmaster—J. W. Doherty, Minneapolis.

MISSISSIPPI & TENNESSEE—Gauge, 4-8½. Miles operated, 100; No. of locomotives, 12; passenger cars, 12; freight and miscellaneous cars, 186.
President, F. M. White, Memphis, Tenn.
Vice President—R. P. Lake, Grenada, Miss.
General Superintendent and Purchasing Agent—M. Burke, Memphis.
Secretary and Treasurer—S. H. Lamb, Memphis.
General Ticket and Freight Agent—A. J. Knapp, Memphis.
Master Mechanic—J. C. Ramsey, Memphis.
Master Car Builder—S. J. Bolton, Memphis.
Roadmaster—J. T. Salter, Sardis, Miss.

MISSISSIPPI VALLEY & SHIP ISLAND—(See New Orleans, Baton Rouge, Vicksburg & Memphis.)

MONT ALTO—Gauge, 4-9. Miles operated, 22; No. of locomotives, 3; passenger cars, 3.
President—T. B. Kennedy, Chambersburg, Pa.
General Superintendent, Chief Engineer and Purchasing Agent—George B. Wiestling, Mont Alto, Pa.
Secretary and Treasurer—Edward B. Wiestling, Mont Alto, Pa.

MISSOURI PACIFIC—(Leased and operated Lines). Gauge, 4-9; miles operated, 6,029.
President—Jay Gould, New York.
First Vice President—R. S. Hayes, St. Louis, Mo.
Second Vice President—H. M. Hoxie, St. Louis.
General Transportation Manager—A. A. Talmage, St. Louis.
Secretary and Treasurer—A. H. Calef, New York.
Auditor—C. G. Warner, St. Louis.
Traffic Manager—Geo. Olds, St. Louis.
General Passenger Agent—H. C. Townsend, St. Louis.
General Ticket Agent—F. Chandler, St. Louis.
General Baggage Agent—W. P. Andrews, St. Louis.
General Freight Agent—J. J Rogers, St. Louis.
Purchasing Agent—R. B. Lyle, St. Louis.
Fuel Agent—E. R. Wilbur, St. Louis.

Missouri Pacific, Central Branch Pacific and Missouri, Kansas & Texas—Gauge, 4-8½. No. of locomotives, 347.
Superintendents—A. M. Hayes, Sedalia, Mo.; W. W. Fagan, Atchison, Kan.; J. B. Van Dyne, Sedalia, Mo.
Superintendent Motive Power and Machinery—John Hewitt, St. Louis, Mo.
Division Master Mechanics—Le Roy Bartlett, St. Louis; E. Taylor, Sedalia, Mo.; H. V. Faries, Atchison, Kas.; J. W. Haines, Parsons, Kas.; C. W. Clark, Denison, Tex.
Superintendent Car Department—John Hodge, St. Louis.
Assistant Superintendents Car Department—S. Irwin, Sedalia, Mo.; J. W. Blackburn, Atchison, Kas.
Master Car Painters—Geo. Forby, St. Louis; E. E. Earle, Sedalia, Mo.; A. M. Christie, Atchison, Kas.
Superintendent Bridges and Buildings—J. B. Mitchell, Atchison, Kan.
Roadmasters—M. J. Fitzpatrick, Atchison, Kan.; C. O. Bigelow, Downe, Kan.; D. W. C. Perry, Parsons, Kan.; E. Courtney, Denison, Tex.; O. H. Earl, Ft. Worth, Tex.; R. J. Duncan, Greenville, Tex.

St. Louis, Iron Mountain & Southern—Gauge, 4-8½. Miles operated, 905¾. No. of locomotives, 154; passenger cars, 105; freight and miscellaneous cars, 365.

CLEVELAND
WHEEL AND FOUNDRY WORKS,

MAHER & BRAYTON, Proprietors,

MANUFACTURERS OF

CAR, ENGINE TRUCK AND TENDER WHEELS,

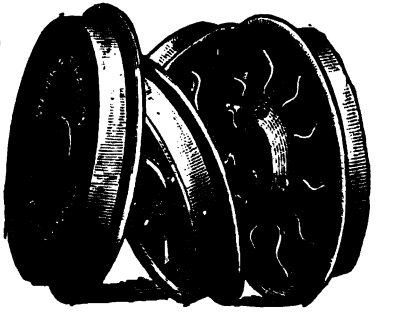
Railroad, Rolling Mill and Machinery Castings

AND

STREET RAILROAD WHEELS AND TURNOUTS.

ALSO

CHILLED-FACED RAILROAD FROGS,



Office: 20 CARTER STREET. Works: Cor. Carter and Collins Streets.

CLEVELAND, OHIO.

Second Vice President—T. T. Eckert, New York.
Superintendent—Wm. Kerrigan, St. Louis, Mo.
Resident Engineer—C. C. Barr, St. Louis, Mo.
Division Master Mechanics—W. H. Harris, De Soto, Mo.; A. M. Richardson, Baring Cross, Ark.
Assistant Master Car Builder—John Hardy, De Soto, Mo.
Division Superintendents—T. W. Kennan, De Soto, Mo.; J. J. Frey, Little Rock, Ark.
General Roadmasters—A. Taylor, South St Louis, Mo.; John Toole. Little Rock, Ark.
Superintendent of Bridges and Buildings—J. E. Wallace, Little Rock, Ark.

International & Great Northern—Gauge, 4-8½. Miles operated, 891. No. of locomotives, 89; passenger cars, 34; freight and miscellaneous cars, 1,769.
Superintendent—J. Herron, Palestine, Tex,
Assistant Superintendent—H. Funnell, Houston, Tex.
Assistant Secretary—W. R. Maxwell, Palestine, Tex.
Master of Transportation—W. H. Boyd, Palestine, Tex.
Assistant General Passenger and Ticket Agent—B. W. McCullough, Marshall, Tex.
General Freight Agent—W. H. Newman, Galveston, Tex.
Fuel Agent—E. Simmonds, Palestine, Tex.
Superintendent Motive Power and Machinery—O. A. Haynes, Marshall, Tex.
Master Mechanic—W. S. Morris, Palestine, Tex.
Superintendent Car Department—H. H. Sessions, Marshall, Tex,
Division Master Car Builder—G. W. Shipman, Palestine, Tex.
Master Car Painter—T. E. Lynch, Palestine, Tex.
Train Masters—J. K. Painter, San Antonio, Tex.; T. Hume, Palestine, Tex.; A. Harding, Trinity, Tex.
Roadmasters—Thos. Cronin, Palestine, Tex.; J. C. Howell, Tyler, Tex.; R. G. Scott, Troupe, Tex.; T. O'Connell, Trinity, Tex.; J. M. Jackson, Houston, J. L. Thomas, Willis, Tex.; A. B. Darden, Jewett, Tex.; C. Taliaferro, Rockwell, Tex.; W. P. Davis, Austin, Tex.; J. J. Burke, Cotulla, Tex.; J. L. Bonney, Houston, Tex.

Texas & Pacific Division—Miles operated, 1,432. No. of locomotives, 143; passenger cars, 86; freight and miscellaneous cars, 3,356.
Second Vice President—John C. Brown, St. Louis, Mo.
Secretary and Treasurer—Chas. E. Satterlee, New York.
Superintendent—Warder Cumming, Marshall, Tex.
General Freight Agent—.H W. Newman, Galveston, Tex.
Superintendent of Motive Power and Machinery—O. A. Haynes, Marshall, Tex.
Division Superintendents—Geo. Dimick, Marshall, Tex.; J. C. Barbery, Big Springs, Tex.; H. L. Magee, Marshall, Tex.
Trainmasters—J. H. Redmon, Marshall, Tex.; J. W. Clawson, Marshall, Tex.; E. G. Mower, Ft. Worth, Tex.
Division Master Mechanics—Perry Stevens, Marshall, Tex.; J. C. Salisbury Big Springs, Tex.
Master Car Builder—H. H. Sessions, Marshall, Tex.
Assistant Master Car Builder—E. E. Carver, Marshall, Tex.
Master Car Painter—H. S. Murff, Marshall, Tex.
Roadmasters—L. L. Keller, Ft. Worth, Tex.; J. L. Turner, Marshall, Tex.; M. McDonough, Marshall, Tex.

MISSISSIPPI, TERRE AUX BOEUFS & LAKE—(Under construction.)
President—E. L. Carriere, New Orleans, La.
Superintendent—M. R. Spelman, New Orleans, La.
Contractor—J. R. Elder, New Orleans, La.

MISSISSQUOI—Gauge, 4-8½. Miles operated, 29.
Manager—W. C. Smith, St. Albans, Vt.
General Freight and Passenger Agent—T. M. Deal, St. Albans, Vt.

MOBILE & GIRARD—Gauge, 5. Miles operated, 85. No. of locomotives, 7; passenger cars, 12; freight and miscellaneous cars, 104.
President—W. G. Raoul, Savannah, Ga.
General Superintendent and Purchasing Agent—W. L. Clark, Columbus, Ga.
Secretary and Treasurer—J. M. Frazer, Columbus, Ga.
Traffic Manager—W. F. Shellman, Savannah, Ga.
General Passenger, Ticket and Freight Agent—D. E. Williams, Columbus, Ga.
General Baggage Agent—G. T. Miller, Columbus, Ga.
Master Mechanic—J. C. Albrecht, Columbus, Ga.
Master Car Builder—A. J. Nix, Columbus, Ga.
Foreman of Car Repairs—James Smith, Columbus, Ga.
Roadmaster—N. Brittingham, Columbus, Ga.

MOBILE & NORTHWESTERN—Gauge, 3. Miles operated, 30. No. of locomotives, 3; passenger cars, 2; freght and miscellaneous, 16.
President and General Manager—Thos. T. A. Lyon, Glendale, Coahoma Co., Miss.
Vice President—T. H. Milburn, Memphis, Tenn.
Chief Engineer—R. L. Vansant, Glendale, Miss.
Secretary—A. F. Talliaferro, Mobile, Ala.
Treasurer—John R. Flippen, Memphis, Tenn.
General Passenger and Freight Agent—G. W. Quarles, Glendale, Miss.

MOBILE & OHIO—Gauge, 5. Miles operated, 527. No. of locomotives, 81; passenger cars, 32; freight and miscellaneous, 1,281.
President—Wm. Butler Duncan, 11 Pine st., New York.
Vice President, General Manager and Chief Engineer—G. Jordon, Mobile, Ala.
Secretary and Treasurer—H. Tacon, Mobile, Ala.
Auditor—Geo. Layet, Mobile, Ala.
General Passenger, Ticket and Freight Agent—J. C. Waller, Mobile, Ala.
Purchasing Agent—F. Jordon, Mobile, Ala.
Master Mechanic—M. T. Carson, Whistler, Ala.
Master Car Builder—J. T. Booth, Whistler, Ala.
Division Superintendents and Engineers—J. G. Motley, Mobile, Ala.; E. S. Hosford, Jackson, Tenn.
Roadmasters—Frank Deas, Enterprise, Miss.; D. W Peace, Crawford, Miss.; J. F. Grogan, Jackson, Tenn.; C. P. Hammond, Union City, Tenn.

MOBILE & SPRING HILL—Gauge, 5-2. Miles operated, 8; No. of locomotives, 1; passenger cars, 10; freight and miscellaneous cars, 5.
President—Daniel McNeill, Mobile, Ala.
General Manager—F. Ingate, Mobile, Ala.
Secretary, Treasurer and Purchasing Agent—C. F. Sheldon, Mobile, Ala.
Master Mechanic and Roadmaster—R. O. Watson, Mobile, Ala.

MONTGOMERY & EUFAULA—(See Central R. & Banking Co. of Georgia.)

MONTGOMERY SOUTHERN—Gauge, 3. Miles operated, 20; No. of locomotives, 1; passenger cars, 1; freight and miscellaneous cars, 14.
President—M. P. Le Grand. Montgomery, Ala.
Manager, Secretary and Purchasing Agent—G. S. Hubbard, Montgomery, Ala.

MONTOUR—Gauge, 4-8½. Miles operated, 12. No. of locomotives, 2; passenger cars, 1; freight and miscellaneous cars, 130.
President— Wm. McCreery, Pittsburgh, Pa.
General Superintendent and Purchasing Agent—Chas. R. Brown, Imperial Pa.
Chief Engineer—C. A. Cooper, Pittsburgh, Pa.
Secretary and Treasurer—Wm. M. Short, Pittsburgh, Pa.
Auditor, General Passenger, Ticket and Freight Agent—L. M. Jenkins, Imperial, Pa.
Master Mechanic—Henry Newman, Imperial, Pa.
Roadmaster—Dan Mahoney, Imperial, Pa.

MONTPELIER & WELLS RIVER—Gauge, 4-8½. Miles operated, 38.2. No. of locomotives, 3; passenger cars, 7; freight and miscellaneous cars, 63.
President—D. R. Sortwell, East Cambridge, Mass.
Vice President—S. S. Thompson, Lyndonville, Vt.
General Superintendent—W. A Stowell, Montpelier, Vt.
Superintendent Transportation—H. W. Whitcomb, Montpelier, Vt.
Secretary and Treasurer—Joel Foster, Montpelier, Vt.
General Passenger, Ticket and Freight Agent—F. W. Morse, Montpelier, Vt.
Foreman of Locomotive Repairs—Charles C. Field, Montpelier, Vt.
Foreman of Car Repairs—Chas. F. Robinson, Montpelier, Vt.
Roadmaster—E. R. Morse, Montpelier, Vt.

MONTREAL & SOREL—Gauge, 4-8½. Miles operated, 47. No. of locomotives, 3; passenger cars, 2; freight and miscellaneous cars, 33.
President—Jas. Armstrong, Sorel, Que.
Secretary and Treasurer—W. Newhouse, Montreal, Que.
General Superintendent—G. N. Pangborn, Sorel, Que.
Roadmaster—John Read, Vercheres, Que.

MONTREAL, PORTLAND & BOSTON—(See Passumpsic).

MONTROSE R.—Gauge, 3. Miles operated, 28. No. of locomotives, 2; passenger cars, 4; freight and miscellaneous cars, 24.
President—James I. Blakeslee, Mauch Chunk, Pa.
Secretary—J. R. Raynsford, Montrose, Pa.
Treasurer—William H. Cooper, Montrose, Pa.
General Passenger, Ticket and Baggage Agent—A. P. Blakeslee, Mauch Chunk.

MORGAN'S LOUISIANA & TEXAS—Gauge, 4-8½. Miles operated, 242. No. of locomotives, 46; passenger cars, 39; freight and miscellaneous cars, 1,300.
President—A. C. Hutchinson, New Orleans, La.
Vice President, Traffic Manager, General Passenger, Ticket and Freight Agent—J. G. Schriever, New Orleans.
General Superintendent and Chief Engineer—J. Kruttschnitt, New Orleans.
Secretary and Treasurer—John B. Richardson, New Orleans.
Auditor—E. M. Underhill, New Orleans.
General Baggage Agent—F. K. Borge, New Orleans.
Purchasing and Fuel Agent—C. Trumpy, New Orleans.
Master Mechanic—James D. Connell, Algiers, La.
Division Master Mechanic—H. Frint, Vermilionville, La.
Foreman of Locomotive Repairs—R. L. Herbert, Algiers, La.
Master Car Builder—John Hildebrand, Algiers, La.
Foreman of Car Repairs—Wm. O'Brien, Algiers, La.
Master Car Painter—Julius Dussell, Algiers, La.
Roadmasters—Chas. Mallard, Algiers, La.; J. T. Dowdell, Vermilionville, La.

NANTUCKET—Gauge, 3. Miles operated, 5½. No. of locomotives, 1; passenger cars, 3; freight and miscellaneous cars, 5.
President—Jonathan Dorr, Boston, Mass.
General Superintendent and Purchasing Agent—P. H. Folger, Boston.
Chief Engineer—W. Veazie, Boston.
Clerk and Treasurer—John H. Norton, Boston.
Master Mechanic—C. M. Stansbury, Nantucket, Mass.

NAPANEE, TAMWORTH & QUEBEC—Gauge, 4-8½. (Under construction).
President—Alexander Henry, Napanee, Can.
Vice President—W. R. Aylsworth, Deseronto, Can.
General Manager—E. W. Rathbun, Deseronto, Can.
Superintendent—R. C. Carter, Deseronto, Can.

NARRAGANSETT PIER—Gauge, 4-8½. Miles operated, 8½. No. of locomotives, 2; passenger cars, 3; freight and miscellaneous cars, 8.
President—John N. Hazard, Peace Dale, R. I.
Gen'l Superintendent, Chief Engineer, General Ticket, Freight and Purchasing Agent—G. T. Lamphear, Peace Dale, R. I.
Secretary and Treasurer—D. M. G. Steadman, Wakefield, R. I.
Roadmaster—P. D. Brennan, Peace Dale, R. I.

NASHVILLE & FLORENCE—Gauge, 5. Miles operated, 36½. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 4.
President—G. H. Nixon, Lawrenceburg, Tenn.
Vice President—J. E. R. Carpenter, Columbia, Tenn.
Superintendent and Chief Engineer—J. T. Craik, Columbia, Tenn.
(Other officers same as Louisville & Nashville.)

NASHVILLE, CHATTANOOGA & ST. LOUIS—Gauge, 5. Miles operated, 580. No. of locomotives, 88; passenger cars, 44; freight and miscellaneous cars, 1,925.
President—James D. Porter, Nashville, Tenn.
General Manager—J. W. Thomas, Nashville.
Chief Engineer—R. C. Morris, Nashville.
Secretary and Treasurer—R. C. Bransford, Nashville.
General Bookkeeper—J. D. Maney, Nashville.
General Passenger and Ticket Agent—W. L. Danley, Nashville.
General Freight Agent—George R. Knox, Nashville.
Master Mechanic and Car Builder—James Cullen, Nashville.
Division Superintendent—M. J. C. Wienne, Nashville.
Roadmasters—Walter Rosser, T. T. Mahoney, Nashville.

NATCHEZ, JACKSON & COLUMBUS—Gauge, 3-6. Miles operated, 98. No. of locomotives, 7; passenger cars, 5.
President—William T. Martin, Natchez, Miss.
General Superintendent and Purchasing Agent—E. D. Frost, Natchez.
Secretary—Jos. M. Kern, Natchez.
Treasurer—George W. Koontz, Natchez.
General Freight and Passenger Agent—John A. Webb, Natchez.
Master Mechanic—J. T. Pratt, Natchez.
Roadmaster—J. C. Mandeville, Hermansville, Miss.

NAUGATUCK—Gauge, 4-8½. Miles operated, 66. No. of locomotives, 16; passenger cars, 19; freight and miscellaneous cars, 500.
President—Hon. Wm. D. Bishop, Bridgeport, Conn.
General Superintendent—George W. Beach, Waterbury, Conn.
Secretary and Treasurer—Horace Nichols, Bridgeport, Conn.
Auditor—Samuel Wilmot, Bridgeport, Conn.
General Ticket and Purchasing Agent—Henry A. Bishop, Bridgeport, Conn.
Superintendent Rolling Stock—Henry D. Beach, Bridgeport, Conn.
Foreman of Locomotive Repairs—Henry Hanford, Bridgeport, Conn.
Foreman of Car Repairs—George W. Gray, Bridgeport, Conn.
Foreman Car Painters—Samuel J. House, Bridgeport, Conn.
Roadmaster—John C. Egleston, Waterbury, Conn.
Supervisor of Bridges—S. M. Burns, Waterbury, Conn.

NEBRASKA, TOPEKA, IOLA & MEMPHIS—Gauge, 4-8½. Miles op'd, 16.
Vice President and General Manager—H. M. Clarke, Girard, Kan.
General Superintendent—C. H. Malin, Girard, Kan.

NEVADA & OREGON—Gauge, 3. Miles operated, 30. No. of cars, 25.
President and Superintendent—D. W. Balch, Reno, Nev.
Vice President—F. F. Fowler, New York.
Treasurer—A. H. Manning, Reno, Nev.
Secretary—Geo. A. King, Reno, Nev.

NEVADA CENTRAL—Gauge, 3. Miles operated, 93. No. of locomotives, 4; passenger cars, 3; freight and miscellaneous cars, 90.
President—S. H. H. Clark, Omaha, Neb.
Vice President—Sidney Dillon, New York.
General Superintendent, Treasurer and Purchasing Agent—F. W. Dunn, Battle Mountain, Nev.
Secretary, Auditor, General Passenger, Ticket and Freight Agent—C. W. Hinchcliffe, Austin, Nev.
Master Mechanic and Roadmaster—Z. T. Sprigg, Battle Mountain, Nev.

THE TUTTLE & WHITTEMORE CO.,

NAUGATUCK, CONN.,

MANUFACTURERS OF

THE CELEBRATED

Pratt Washers,

FOR RAILROAD TRACK JOINTS.

— THE —

Best Nut Lock in the World.

Many of the leading roads are using them and have ordered them annually for the last ten years.

ALSO MANUFACTURERS OF

AIR FURNACE MALLEABLE IRON CASTINGS

OF SUPERIOR QUALITY AND STRENGTH.

All Work Guaranteed. Railroad Work a Specialty.

NEVADA COUNTY NARROW GAUGE—Gauge, 3. Miles operated, 22½. No. of locomotives, 3; passenger cars, 4; freight and miscellaneous cars, 42.
President—John C. Coleman, Grass Valley, Cal.
Vice President, Edward Coleman, Grass Valley, Cal.
General Sup't and Purchasing Agent—John F. Kidder, Grass Valley, Cal.
Secretary, Auditor and Gen'l Ticket Agent—Geo. Fletcher, Grass Valley, Cal.
Master Mechanic and Car Builder—Jas. McCormack, Grass Valley, Cal.
Master Car Painter—Geo. Murphy, Grass Valley, Cal.
Foremen of Section—Robt. Scanlan, Dennis Scanlan, Grass Valley, Cal.

NEW BRUNSWICK—Gauge, 4-8½. Miles operated, 447. No. of locomotives, 30; passenger cars, 35; freight and miscellaneous cars, 588.
President—Samuel Thorne, 67 Wall st., New York city.
Vice President—Hon. Isaac Burpee, St. John, N. B.
General Manager and Freight Agent—E. R. Burpee, St. John, N. B.
Secretary and Treasurer—Alfred Seely, St. John, N. B.
Auditor—Alex. McNaughton, St. John, N. B.
General Passenger, Ticket and Baggage Agent—N. T. Greathead, St. John, N. B.
Purchasing Agent—J. J. Seely, Woodstock, N. B.
Division Master Mechanics—Jesse Mathews, Gibson, N. B.; T. Armstrong, St. Andrews, N. B.
Master Car Builder—T. N. Burpee, McAdam, N. B.
Foreman of Car Repairs—J. W. Brittain. St. John, N. B.
Train Superintendent—John Stewart, Woodstock, N. B.
Roadmasters—D. Tapley, Gibson, N. B.; A. J. Miles, Woodstock, N. B.; Geo. Gabel, Grand Falls, N. B.; E. Howard, St. Andrews, N. B.; D. Brown, St. John, N. B.

NEWBURGH, DUTCHESS & CONNECTICUT—Gauge, 4-8½. Miles operated, 57·84. No. of locomotives, 8; passenger cars, 4; freight and miscellaneous cars, 247.
President and Treasurer—John S. Schultze, Matteawan, N. Y.
General Superintendent and General Freight and Purchasing Agent—C. L. Kimball, Matteawan, N. Y.
Secretary—W. A. Wells, Matteawan, N. Y.
Auditor, General Passenger and Ticket Agent—W. H. Moore, Matteawan, N. Y.
Master Mechanic, Car Builder and Car Painter—W. G. Van Buskirk, Dutchess Junction, N. Y.
Roadmaster—B. F. Stowell, Matteawan, N. Y.

NEW HAVEN & DERBY—Gauge, 4-8½. Miles operated, 13. No. of locomotives, 4; passenger cars, 5; freight and miscellaneous cars, 70.
President—J. H. Bartholomew, New Haven, Conn.
Vice President—Chas. L. English, New Haven, Conn.
General Superintendent, Purchasing Agent and Roadmaster—E. S. Quintard, New Haven, Conn.
Secretary and General Ticket Agent—F. E. Harrison, New Haven, Conn.
Treasurer—Chas. Atwater, New Haven, Conn.
General Freight Agent—Fred. Quintard, New Haven, Conn.
Master Mechanic and Master Car Builder—J. M. Whitlock, New Haven.

NEW HAVEN & NORTHAMPTON—Gauge, 4-8½. Miles operated, 144; No. of locomotives, 28; passenger cars, 35; freight and miscellaneous cars, 540.
President—C. N. Yeamans, New Haven, Conn.
Superintendent—S. B. Opdyke, Jr., New Haven, Conn.
Secretary, Treasurer, and General Passenger and Ticket Agent—E. A. Ray, New Haven, Conn.
Purchasing Agent—R. G. Curtis, New Haven, Conn.
Master Mechanic—Henry Fox, New Haven, Conn.
Foreman of Car Repairs—John Sweeney, New Haven, Conn.
Roadmasters—E. Collins, Westfield, Mass.; H. Baker, Northampton, Mass.

NEW JERSEY & NEW YORK—Gauge, 4-8½. Miles operated, 55¾. No. of locomotives, 7; passenger cars, 20; freight and miscellaneous cars, 20.
President—Valentine L. Lary, 1 Pavonia av., Jersey City, N. J.
Vice President—Isaac D. Demarest, Oradell, N. J.
General Manager and Auditor—J. D. Hasbrouck, 1 Pavonia av., Jersey City,
General Superintendent and Master Mechanic—J. S. Drake, Hillsdale, N. J.
Secretary and Treasurer—H. C. Deming, 1 Pavonia av., Jersey City.
Master Car Builder—L. B. Wagnen, Hillsdale, N. J.
Foreman Locomotive Repairs—R. W. Jepson, Hillsdale, N. J.
Roadmaster—L. Doyle, Westwood, N. J.

NEW LONDON NORTHERN—(See Central Vermont.)

NEW MEXICO & ARIZONA—(See Atchison, Topeka & Santa Fe.)

NEW ORLEANS & MISSISSIPPI VALLEY—Gauge, 4-8½. Miles operated, 89.
Vice President and General Manager—Jas. M. Edwards, Vicksburg, Miss.
Superintendent—John Bradley, Vicksburg, Miss.
(A portion of the Louisville, New Orleans & Texas—still under construction.)

THE AJAX METAL COMPANY,

TRADE MARK.

J. G. HENDRICKSON, F. J. CLAMER, FRANK BUSHNELL, } Co-partners.

Sole Owners and Manufacturers

— OF —

CLAMER'S

Ajax Metals.

—o—

Car and Engine Brasses, Bored to Size, and Coated with our Patent Adhesive Metal, a Specialty.

—o—

Office No. 14 North Fifth Street,

PHILADELPHIA, PA.

STRACK & ANGELL,

Manufacturers of and Wholesale Dealers in

HARD WOOD LUMBER,

Mills on C. V. W, & M. R. R.

RAILROAD LUMBER A SPECIALTY.

Branch Office near P. F. W. & C. R. R. Depot,

VAN WERT, OHIO.

Main Office, 237 West Berry Street.

FORT WAYNE, IND.

The Deeds Nut Lock

THE ONLY COMPLETE AND UNIVERSAL NUT LOCK.

Suitable for ALL KINDS OF BOLTS.

Can be Removed without Injury to either Bolt or Nut.

DEEDS NUT LOCK CO., Terre Haute, Ind.

WM. MACK, Pres't. JOHN T. SCOTT, Gen, Man.

W. WAYNE VOGDES,

Gen'l Eastern Agent,

119 S. 4th St. Philadelphia.

NEW ORLEANS & NORTHEASTERN—(See Cincinnati, New Orleans & Texas Pacific.

NEW ORLEANS & SELMA—Gauge, 5. Miles operated, 20. No. of locomotives, 1; passenger cars, 1; freight and miscellaneous cars, 7.
Trustee—Hon. John Tucker, Selma, Ala.
uperintendent—L. B. Schofield, Selma, Ala.
Master Mechanic—J. D. Fitzgerald, Selma, Ala.
Roadmaster—J. E. Goodson, Selma, Ala.

NEW ORLEANS, BATON ROUGE, VICKSBURG & MEMPHIS—Gauge, 4-8½. Miles operated, 78.
Superintendent—A. A. Sharp, Vicksburg, Miss.
(This road forms a portion of the Louisville, New Orleans & Texas Railway, under construction from Memphis to New Orleans.)

NEWPORT & WICKFORD—Gauge, 4-8½. Miles operated, 3½. No. passenger cars, 1; freight and miscellaneous cars, 3.
President—George M. Miller, Drexel Building, New York.
General Manager and Purchasing Agent—Theodore Warren, Newport, R. I.
Secretary and Treasurer—S. S. Sherman, Newport, R. I.
Roadmaster—Simeon Gardiner, Wickford, R. I.

NEW YORK & GREENWOOD LAKE—Gauge, standard. Miles operated, 49. No. of locomotives, 8; passenger cars, 17; freight and miscellaneous cars, 17.
President—A. S. Hewitt, 17 Burling Slip, New York.
Vice President—Robert Harris, New York, Lake Erie & Western offices, New York.
Superintendent and Roadmaster—Stephen Smith, 1 Pavonia av., Jersey City.
Treasurer—Tappen Bowne, New York, Lake Erie & Western offices, New York.
Master Mechanic and Car Painter—F. A. Stinard, Pompton Junction, N. J.

NEW YORK & LONG BRANCH—[Operated by Philadelphia & Reading and Pennsylvania Railroad Companies]. Gauge, 4-8½. Miles operated, 38¼.
President—Hon. Henry S. Little, 119 Liberty st., New York.
Acting Supt. and Purchasing Agent—H. H. Nieman, Long Branch, N. J.
Resident Engineer—L. D. Bruyn, Red Bank, N. J.
Secretary—Samuel Knox, 119 Liberty st., New York.
Treasurer—Hon. Anthony Reckless, 119 Liberty st., New York.
Auditor—Thomas D. Maurer, Long Branch, N. J.
Trackmaster—W. H. Marshall, Red Bank, N. J.

NEW YORK & NEW ENGLAND—Gauge, 4-8¼. Miles operated, 449.37. No. of locomotives, 151; passenger, baggage and express cars, 187; freight and miscellaneous cars, 3,772.
President—Eustace C. Fitz, Boston, Mass.
Receiver—Chas. P. Clark, Boston.
Chief Engineer—L. B. Bidwell, Boston.
Assistant to Receiver—J. W. Perkins, Boston, Mass.
Treasurer—G. B. Phippen, Boston.
Auditor—H. M. Kochersperger, Boston.
General Passenger Agent—A. C. Kendall, Boston.
General Freight Agent—G. H. Williams, Boston.
Purchasing Agent—W. W. McKim, Boston.
Master Mechanics—Geo. E. Boyden, Norwood Central, Mass.; E. M. Humstone, Hartford, Conn.; W. A. Stone, Norwich, Conn.
Master Car Builder—E. E. Pratt, Norwood Central, Mass.
Master Car Painter—E. L. Felting, Norwood Central, Mass.
Division Superintendents—W. H. Turner, Boston, Mass.; E. Holbrook, Hartford, Conn.: C. H. Platt, Fishkill on Hudson, N. Y.; L. W. Palmer, Providence, R. I.; P. St. M. Andrews, Norwich, Conn.; E. H. Tucker, Needham, Mass.
Supervisors—C. R. Shepard, Franklin, Mass.; G. E. Daggett, Willimantic, Conn.; W. L. Derr, Needham, Mass.; W. H. Van Frank, Hartford, Conn.: Thomas Brennan, Danbury, R. I.; H. N. Hammond, Providence, R. I.; David Toomey, Norwich, Conn.

NEW YORK & SEA BEACH—Gauge, 4-8½. Miles operated, 6; double track. No. of locomotives, 6; passenger cars, 42; freight and miscellaneous cars, 9.
President—Charles Seidler, Jersey City, N. J.
Vice President and General Manager—W O. McDowell, 120 Liberty st., N Y.
General Sup't and Purchasing Agent—C. W. Douglas, 120 Liberty st., N. Y.
Secretary and Treasurer—A. H. Man, 56 Wall st., New York.
Auditor—C. E. McDowell, 120 Liberty st., New York.
General Passenger and Ticket Agent—Thos. H. McGrath, Bay Ridge, L. I.
Master Mechanic—John Kelly, Bay Ridge, L. I.
Roadmaster—Frank Jacobus, Bay Ridge, L. I.

NEW YORK CENTRAL & HUDSON RIVER—Gauge, 4-8½. Miles operated, 993.29. No of locomotives, 632; passenger cars, 596; freight and miscellaneous cars, 24,567.
President—J. H. Rutter, Grand Central Depot, New York.
First Vice President—C. C. Clarke, Grand Central Depot, New York.
Second Vice President—Hon. C. M. Depew, Grand Central Depot, New York

CRANE BROS. MFG. CO.,

CHICAGO,

MANUFACTURERS OF

WROUGHT IRON PIPE,

BRASS AND IRON GOODS,

For Steam and Gas Fitters and Engine Builders.

CAST IRON AND MALLEABLE IRON FITTINGS.

Steam Pumps,

Steam Freight and Passenger Elevators,

STEAM HOISTS FOR BLAST FURNACES.

Stationary Steam Engines, Etc.

WOLFRATH'S

Combination Sash Lift

— AND —

AUTOMATIC FASTENER.

Approved and adopted by practical car builders. Sash can be raised or lowered to any desired height, Avoids breakage of glass or injury to passengers by dropping of windows. Will not get out of order. Address

ADDISON D. LOUCKS,

Room 82, Drexel Building, New York.

"STANDARD" BRAKE SHOE AND HEAD.

THIS DEVICE IS BEING ADOPTED BY LEADING LINES, AND IS CONCEDED, WITHOUT EXCEPTION, TO BE

THE BEST AND CHEAPEST IN USE.

Patent Approved by Western Railroad Association.

MANUFACTURED BY

STANDARD MANUFACTURING CO.,

☞ Write for Circular and Prices. Fort Wayne, Ind.

Third Vice President—Horace J. Hayden, Grand Central Depot, New York.
Assistant to President—J. Tillinghast, Grand Central Depot, New York.
General Superintendent—J. M. Toucey, Grand Central Depot, New York.
Chief Engineer—Charles H. Fisher, Albany, N. Y.
Assistant Chief Engineer—William Lush, Grand Central Depot, New York.
Resident Engineer—George F. Boulard, Grand Central Depot, New York.
Secretary—E. D. Worcester, Grand Central Depot, New York.
Treasurer—E. V. W. Rossiter, Grand Central Depot, New York.
Comptroller—I. P. Chambers, Grand Central Depot, New York.
General Traffic Manager—H. J. Hayden, Grand Central Depot, New York.
General Passenger Agent—C. B. Meeker, Grand Central Depot, New York.
Passenger Agent—E. J. Richards, Grand Central Depot, New York.
General Baggage Agent—S. McCully, Grand Central Depot, New York.
General Freight Agent—E. Clark, Jr., Grand Central Depot, New York.
Assistant General Freight Agent—S. Goodman, Grand Central Depot, N. Y.
Purchasing Agent—R C. Moore, Grand Central Depot, New York.
Superintendent Motive Power—Wm. Buchanan, Grand Central Depot, N. Y.
Master Mechanics—John Ortton, West Albany, N. Y.; A. Gould, East Buffalo, N. Y.; S. L. White, Syracuse, N. Y.
Superintendent Car Department—L. Garey, Grand Central Depot, New York.
Master Car Builders—D. Holt, West Albany, N. Y.; C. H. Burchard, East Rochester, N. Y.; E. A. Olmstead, East Buffalo, N. Y.
Division Superintendents—C. M. Bissell, Hudson River Division, New York; Z. C. Priest, Little Falls, N. Y.; G. H. Burrows, Buffalo, N. Y.
Assistant Division Superintendents—J. H. Phyfe, New York; F. H. Phillips, Little Falls, N. Y.; Henry Gould, Buffalo, N. Y.
General Roadmaster—W. D. Otis, East Albany, N. Y.
Roadmasters—J. Tator, White Plains, N. Y.; J. Milmine, Schenectady, N. Y.; A. W. Eggleston, Poughkeepsie, N. Y.; J. Edwards, St. Johnsville, N. Y.; G. F. Angel, Utica, N. Y.; M. Burns, Batavia, N. Y.; A. L. Weston, Rochester, N. Y.; M. J. Wilder, Buffalo, N. Y.; B. Bennett, O. W. Clough, Syracuse, N. Y.; S. Sult, Batavia, N. Y.

NEW YORK, CHICAGO & ST. LOUIS—"(Nickel-Plate")—Gauge, 4-8½ Miles operated, 523. No. of locomotives, 109; passenger cars, 50; freight and miscellaneous cars, 6,694.
President—W. K. Vanderbilt, New York.
Vice President—D. W. Caldwell, Cleveland, O.
General Manager—Lewis Williams, Cleveland.
Chief Engineer—J. A. Latcha, Cleveland.
Division Engineers—W. Mc K. Pardee, West Division, Chicago, Ill.; J. M. Richardson, Eastern Division, Cleveland, O.
Secretary and Treasurer—F. W. Vanderbilt, New York.
Auditor—J. P. Curry, Cleveland, O.
General Passenger, Ticket and Baggage Agent—B. F. Horner, Cleveland.
General Freight Agent—G. B. Spriggs, Cleveland.
Superintendent Motive Power—John Mackenzie, Cleveland.
Division Master Mechanics and Foremen of Locomotive Repairs—Jas. Eckford, Western Division, Stony Island, Ill.; E. A. Miller, Eastern Division. Conneaut, O.
Division Superintendents—A. H. Evans, Western Division, Chicago, Ill.; G. H. Kimball, Eastern Division, Cleveland, O.
Supervisors—J. H. Collopy, Bellevue, O.; J. W. Murphy, Stony Island, Ill., Western Division; O. Crossly, Cleveland, O.; S. W. Marshall, Conneaut, O.; John Shanley, Buffalo, N. Y., Eastern Division.

NEW YORK CITY & NORTHERN—Gauge, 4-8½. Miles operated, 54. No. of locomotives, 17; passenger cars, 25; freight and miscellaneous cars, 347.
President—R. M. Gallaway, 71 Broadway, New York.
Receiver—Arthur Leary, 71 Broadway, New York.
Secretary and Treasurer—C. Goddard, 71 Broadway, New York.
General Superintendent and Purchasing Agent—Frank S. Gannon, High Bridge, N. Y.
Division Engineer—A. J. Gavett, High Bridge, N. Y.
Auditor—H. K. Batchelor, 71 Broadway, New York.
General Passenger and Freight Agent—H. C. Willets, 71 Broadway, N. Y.
Master of Machinery—Thos. Miller, High Bridge, N. Y.
Foreman of Car Repairs—John Mann, High Bridge, N. Y.
Master Car Painter—Chas. Smart, High Bridge, N. Y.
Roadmaster—H. C. Moore, High Bridge, N. Y.

NEW YORK, LAKE ERIE & WESTERN—Gauge, 4-8½. Miles operated. 1,073. No. of locomotives, 576; passenger cars, 446; freight and miscellaneous cars, 28,881.
President—Hugh J. Jewett, New York.
Vice Presidents—Geo. R. Blanchard, New York; 2d and General Manager, E. S. Bowen, New York.
General Superintendent—B. Thomas, New York.
Consulting Engineer—O. Chanute, New York.
Secretary—A. R. MacDonough, New York.
Treasurer—B. W. Spencer, New York.
Comptroller—Stephen Little, New York.
Auditor—A. J. McDowell, New York.
General Passenger Agent—John N. Abbott, New York.

MANUFACTURED BY

Lalance & Grosjean Manufacturing Co.,

19 Cliff Street, New York.

BRANCH HOUSES

81 Michigan Avenue, CHICAGO, ILLS

164 & 166 North Street, BOSTON, MASS

43 Magazine Street, NEW ORLEANS, LA.

Shows the Bar pushed into position by the foot of the operator, the Swinging Shoe acting as a fulcrum, and is the proper mode of applying the Bar when both sides of the rail are easily reached.

PROUT'S

PATENT

Spike Puller

(Superior to any Claw Bar.)

Price, $7.00

NET CASH

SEND FOR CIRCULAR.

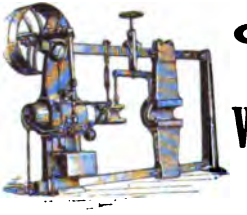
Shows the Bar in position for pulling over the rail. In this way it can be used on Trestles, Bridges, in Tunnels, Yards, at Stations where platforms are in the way, and in other places where there is not space to use the ordinary claw bar

The best quality of STEEL is used for the working parts, and hydraulic gas pipe for the lever, making it very LIGHT, yet sufficiently STRONG and POWERFUL, and is constructed on the simplest mechanical principles as to the application of POWER

HYDRAULIC JACKS,

LATEST AND BEST IMPROVED, 1884,

To Raise or Push, 2 to 150 Tons.



IMPROVED

CRANK PIN

— AND —

CAR WHEEL PRESSES.

WATSON & STILLMAN,

(Successors to E. Lyon & Co.)

470 E. Grand Street,

NEW YORK.

HUNT'S CAR STEP LIGHT

— AND —

Railway Specialty Company,

OF NEW YORK.

Capital Stock, $250,000. Shares, $25 Par Value.

PRESIDENT: . . GEO. W. HUNT, of Philadelphia.
VICE PRESIDENT: JAMES H. BAILY, of New York.
SECRETARY: . . JULIUS M. FERGUSON, of New York.
TREASURER: . . E. FERMOR HALL, of New York.

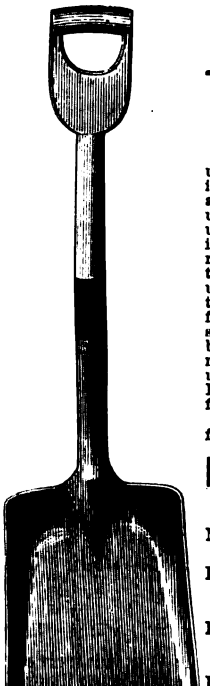
The object of the Company is the furnishing to railroads the special railway appliances under its control, a list of which will be given upon application to the Secretary of the Company, Room 99, No. 206 Broadway, New York.

Freight Traffic Manager—R. C. Vilas, New York.
General Freight Agent—Edward Foley, New York.
General Baggage Agent—J. J. Post, New York.
Purchasing Agent—J. A. Hardenburgh, New York.
General Coal Agent—E. N. Frisbie, New York.
Superintendent Motive Power—F. M. Wilder, Susquehanna, Pa.
Division Master Mechanics—J. H. Vreeland, Jersey City, N. J.; J. Van Vechten, Port Jervis, N. Y.; V. Blackburn, Susquehanna, Pa.; G. B. Ross, Buffalo, N. Y.; Geo. H. Griggs, Hornellsville, N. Y.; G. A. Hill, Pompton, N. J.
Master Car Builders—J. N. Mileham, Jersey City, N. J.; D. B. Goodell, Elmira, N. J.; M. Wilder, Buffalo, N. Y.
Division Superintendents—H. N. Blackman, Superintendent of Transportation, Jersey City, N. J.; E. O. Hill, Jersey City, N. J.; W. J. Murphy, Port Jervis, N. Y.; C. A. Brunn, Buffalo, N. Y.; J. Jolls, Elmira, N. Y.; Chas. Neilson, Buffalo, N. Y.; W. B. Coffin, Hornellsville, N. Y.
Roadmasters—W. Farnham, Elmira, N. Y.; P. Dundou, Binghamton, N. Y.; Thos. Shaunnessy, Waverly, N. Y.; J. J. Flynn, Addison, N. Y.; W. H. Starr, Buffalo, N. Y.; J. English, Attica, N. Y.; W. B. Parsons, Jr., Avon; J. Healy, Buffalo, N. Y.; P. Hannifen, Avon, N. Y.; Gus. Lenborn, Gowanda, N. Y.; Jacob Keene, Middletown, N. Y.; G. W. Bartlett, Port Jervis, N. Y.; R. P. Staats, Jersey City, N. J.
(The N. Y., P. & O. Division is separately reported).

NEW YORK, NEW HAVEN & HARTFORD—Gauge, 4-8½. Miles operated, 258. No. of locomotives, 122; passenger cars, 371; freight and miscellaneous cars, 2,372.
President—Geo. H. Watrous, New Haven, Ct.
Vice President—E. M. Reed, New York.
Treasurer—W. L. Squire, New York.
Auditor—S. C. Fleetwood, New York.
Secretary—W. D. Bishop, Jr., New Haven, Ct.
General Ticket Agent—C. T. Hempstead, New York.
General Freight Agent—Chas. Rockwell, New Haven, Ct.
Chief Engineer—Geo. E. Buddington, New Haven, Ct.
Purchasing Agent—R. N. Dowd, New Haven, Ct.
Master Mechanics—H. Kettendorf, New Haven, Ct; J. Henney, Jr., Hartford.
Master Car Builder—J. Denver, New Haven, Ct.
Foreman Locomotive Repairs—Louis Wiley Hartford, Ct.
Foreman Car Repairs—John A. Whittemore, Hartford, Ct.
Foreman Car Painters—Geo. E. Snow, Hartford, Ct.
Superintendents -W. H. Stevenson, New York; C. S. Davidson, Hartford; O. M. Shepard, New Haven, Ct.
Bridge Supervisors—B. K. Mason, Hartford, Ct; John E. Fuller, Bridgeport, Ct.; F. M. Cogill, Harlem River, N. Y.
Roadmasters—Wm. H. Elton, Middleton, Ct.; M. E. Cook, Guilford, Ct.; F. C. Clark, Stamford, Ct.; Isaac Pressey, Stamford, Ct.; J. S. Lane, Hartford, Ct.

NEW YORK, ONTARIO & WESTERN—Gauge, 4-8½. Miles operated, 376. No. of locomotives, 73; passenger cars, 77; freight and miscellaneous cars, 1,860.
President—Edward F. Winslow, 35 Wall st., New York.
Vice President—Theodore Houston, 35 Wall st., New York.
General Manager—J. D. Layng, 35 Wall st., New York.
General Superintendent—James E. Childs, 35 Wall st., New York.
Secretary and Treasurer—John L. Nisbet, 35 Wall st., New York.
Auditor—S. A. Lathrop, 35 Wall st., New York.
General Freight and Passenger Agent—J. C. Anderson, 24 State st., New York.
Purchasing Agent—Isaac W. Fowler, Middletown, N. Y.
Master Mechanic—Edw. Minshull, Middletown, New York.
Division Superintendents—C. W. Bradley, Weehawken, N. Y.; N. R. Hankins, Middletown, N. Y.; C. W. Lanpher, Norwich, N. Y.
Division Roadmasters—Robert Brock, Haverstraw, N. Y.; John Dicks, Middletown, N. Y.; B. G. North, Walton, N. Y.; M. Finnigan, Norwich, N. Y.

NEW YORK, PENNSYLVANIA & OHIO—Gauge, 4-8½. Miles operated (main line and branches), 563.23. No. of locomotives, 232; passenger cars, 80; freight and miscellaneous cars, 7,796. [Leased to New York, Lake Erie & Western Railroad Company May 1, 1883.]
General Superintendent—J. M. Ferris, Cleveland, O.
Chief Engineer—Charles Latimer, Cleveland.
Assistant Chief Engineer—H. C. Thompson, Cleveland.
General Agent—John H. Dynes, Cleveland.
Treasurer—B. W. Spencer, New York.
Assistant Treasurer—F. E. Rittman, Cleveland.
Auditor—A. J. McDowell, New York.
General Passenger, Ticket and Baggage Agent—A. E. Clark, Cleveland.
General Freight Agent—G. G. Cochran, Cleveland.
Assistant General Freight Agent—H. C. Hastings, Cleveland.
Purchasing and Fuel Agent—J. H. Holway, Cleveland.
Suerintendent Motive Power and Machinery and Master Car Builder—Wm. Fuller, Ceveland.
Division Master Mechanics—J. A. Cooper, Meadville, Pa.; Wm. Hill, Galion, O.; N. Wright, Cleveland, O.



A SHOVEL WITHOUT A RIVAL.

The Remington Shovel.

Fashioned from one piece of Superior Cast Steel, the part usually represented by Straps upon the handle in the Remington Shovel forms a complete Socket without a weak point, and the blade being without a rivet will wear for months under severest trials before yielding to the effects of continued use. Where other Shovels are weakest, the Remington Shovel is strongest. Its peculiar points of excellence commend it for railroad service. Special attention is called to its uniform excellence, being manufactured from a superior grade of Cast Steel, tempered by an improved process; its perfect connection with the handle; its great strength at top of blade, which is thus capable of sustaining the severest strain, having no rivets or holes to weaken the blade. These unequaled features of superiority make The Remington Shovel a tool admirably adapted for all purposes.

Prices furnished on application. Manufactured by

REMINGTON AGRICULTURAL CO.

ILION, N. Y.

NEW YORK OFFICE:
118 Chambers Street.

PHILADELPHIA AGENTS:
THE STEWART & HATSON M'F'G CO.
9042 North 10th St.

BALTIMORE AGENTS:
W. H. COLE & SONS,
Cor. German & Charles Sts.

KANSAS CITY, MO., AGENTS:

ALSO MANUFACTURERS AND GRINDERS

OF

TINTED WHITE LEADS,

Expressly adapted for

RAILROADS.

SEND FOR PRICES TO

Assistant Master Car Builder—S. V. Smith, Kent, O.
Foremen of Car Repairs—D. S. Dockstader, Meadville, Pa.; C. N. Thorp, Cleveland, O.; J. W. Holmes, Galion, O.; George Wilson, Dayton, O.
Master Car Painters—Robert McKeon, Kent, O.; M. McBride, Meadville, Pa.
Division Superintendents—A. L. Dunbar, Meadville, Pa.; T. A. Phillips, Galion, O.; N. F. Wood, Cleveland, O.
Roadmasters—T. G. Armstrong, Jamestown, N. Y.; John Newham, Greenville, Pa.; Jas. Newham, Kent, O.; H. Burgess, Akron, O.; M. J. McInarna, Mansfield, O.; J. M. Alsop, Galion, O.; D. Ryan, Dayton, O.; P. Callopy, Cleveland, O.; E. Callopy, Youngstown, O.; P. Bowen, Cochranton, Pa.

NEW YORK, PHILADELPHIA & NORFOLK—Gauge, 4-8½. Miles operated, 30.
President—U. H. Painter, Box 2,116, Philadelphia, Pa.
Vice President, General Manager and Purchasing Agent—Wm. Painter, P. O. Box, 2,116, Philadelphia.
General Superintendent, Passenger, Ticket and Freight Agent—J. L. Bates, Pocomoke City, Md.
Chief Engineer—E. W. Goerke, Pocomoke City, Md.
Secretary and Treasurer—M. H. Taylor, 40 Wall street, New York.
Auditor—Jas. R. Ash, Box 2,116, Philadelphia.
Roadmaster—H. G. Fisher, Pocomoke City, Md.

NEW YORK, PITTSBURGH & CHICAGO—Gauge, 4-8½. Miles operated, 15. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 25.
President—Gen. Jas. S. Negley, Pittsburgh, Pa.
Vice President—Thos. P. Simpson, New York.
Superintendent and Roadmaster—Geo. W. Dixon, New Galilee, Pa.
Acting Chief Engineer—F. Hunnings, Pittsburgh.
Secretary—James S. Negley, Jr., Pittsburgh.
Treasurer—Wm. N. Riddle, Pittsburgh.
Auditor and General Passenger, Ticket, Freight and Purchasing Agent.—H. T. Hanna, Pittsburgh.
Foreman of Locomotive Repairs—H. Norwood, New Galilee, Pa.

NEW YORK, PROVIDENCE & BOSTON—Gauge, 4-8½. Miles operated, 82½. No. of locomotives, 30; passenger cars 54, and proprietor of 61; freight and miscellaneous cars, 384.
President—Samuel D. Babcock, New York.
Vice President and General Manager—David S. Babcock, New York.
Superintendent—J. P. Gardiner, Providence, R. I.
Asst. Superintendent and Purchasing Agent—G. F. Ward, Stonington, Conn.
Assistant Chief Engineer—E. P. Dawley, Providence, R. I.
Secretary—A. R. Longley, Jr., Stonington, Conn.
Treasurer—Henry Morgan, New York.
General Ticket Agent—F. B. Noyes, Stonington, Conn.
Master Mechanic—J. H. Anderson, Providence, R. I.
Roadmaster—F. H. Bradley, West Mystic, Conn.; assistant, S. A. Wheeler, Providence, R. I.

NEW YORK, SUSQUEHANNA & WESTERN—Gauge, 4-9. Miles operated, 147. No. of locomotives, 33; passenger cars, 23; freight and miscellaneous cars, 1,469.
President and General Manager—Frederic A. Potts, 93 Liberty st., New York.
Vice President—W. S. Dunn, 93 Liberty st., New York.
Chief Engineer—D. H. Wood, 93 Liberty st., New York.
Secretary—John P. Rafferty, 93 Liberty st., New York.
Treasurer and Auditor—Charles V. Ware, 93 Liberty st., New York.
General Passenger and Freight Agent—I. I. Demarest, 93 Liberty st., N. Y.
General Baggage and Purchasing Agent—C. T. Demarest, 93 Liberty st., N.Y.
Master Mechanic and Car Builder—W. C. Ennis, Wortendyke, N. J.
Foreman Car Painters—James Brady, Wortendyke, N. J.
Assistant Superintendent—C. D. McKelvey, Jersey City, N. J.
Roadmaster—Charles Brown, Hackensack, N. J.

NEW YORK, TEXAS & MEXICAN—Gauge, 4-8½. Miles operated, 92. No. of locomotives, 6; passenger cars, 4; freight and miscellaneous cars, 100.
President—D. E Hungerford, Victoria, Tex.
Vice President and General Manager—Allen McCoy, Victoria, Tex.
General Contractor—Count J. Telfener, Victoria, Tex.
Secretary—E. D. Linn, Victoria, Tex.
Treasurer—Colonel J. M. Brownson, Victoria, Tex.
Auditor—M. Sichel, Victoria, Tex.
Master Mechanic—J. G. Conlon, Victoria, Tex.
Roadmaster—M. C. Whalen, Victoria, Tex.

NEW YORK, WEST SHORE & BUFFALO—Gauge, 4-8½. Miles operated, 426. No. of locomotives, 175; passenger cars, 80; freight and miscellaneous cars, 9,200.
President—General Horace Porter, 15 Broad st., New York.
Vice President—Theo. Houston, 15 Broad st., New York.
General Manager—J. D. Layng, 15 Broad st., New York.
Assistant General Superintendent—C. D. Gorham, Weehawken, N. J.

F. H. ANDREWS. B. A. CLOONEY.

ANDREWS & CLOONEY.

FACTORY:
535 to 551 W. 33d and
538 to 552 W. 34th Sts

OFFICE:
545 West 33rd Street,
NEW YORK.

MANUFACTURERS OF

ELLIPTIC, SPIRAL, VOLUTE, CAR AND ENGINE SPRINGS of every description.

Car Wheels, Axles, Pedestals, Brake Shoes, Boxes, Brass Bearings and Castings of all descriptions where great strength is required.

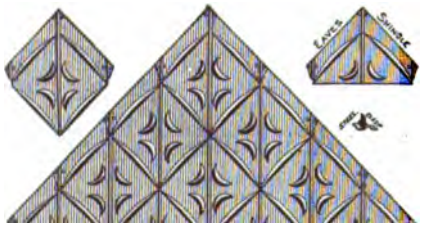
ALSO

Sweepers, Snow Plows, Turntables, Track Work, Automatic Switches, &c.

Steel Groove Rails and Machinery.

METALLIC SHINGLES

AT GREATLY REDUCED PRICES.



$5.50 & 6.50 per Square.

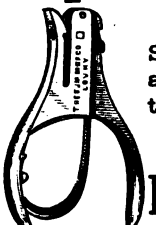
New and improved designs. Preserved from corrosion by Kalamine Alloy process.

ANGLO AMERICAN ROOFING CO.,

22 Cliff Street,

FRED. J. MEYERS M'F'G CO.

Improved Ticket Punches.



The Easiest Cutting and Most Serviceable Punches made; Suitable for any Ticket. Send for Illustrated Catalogue of

Designs and Prices.

FRED. J. MEYERS M'F'G CO.,

Chief Engineer—Walter Katte, 15 Broad st., New York.
Secretary—J. L. Nisbet, 15 Broad st., New York.
Treasurer—F. E. Worcester, 15 Broad st., New York.
Auditor—J. W. Reinhart, 15 Broad st., New York.
Traffic Manager—W. P. Robinson, 15 Broad st., New York.
General Passenger Agent—Henry Monett, 24 State st., New York.
General Baggage Agent—Geo. W. Clymans, Weehawken, N. J.
Assistant General Freight Agent—B H. Ball, 24 State st., New York.
Purchasing Agent—P. S. Bemis, 15 Broad st., New York.
Superintendent Motive Power—R. H. Soule, Frankfort, N. Y.
Division Superintendents—C. W. Bradley, Weehawken, N. Y.; H. W. Gardiner, Syracuse, N. Y.; T. E. Merrill, Buffalo, N. Y.
Division Master Mechanics—Harry Linn, Kingston, N. Y.; E. Minshull Frankfort, N. Y.; R. Tremain, Syracuse, N. Y.; T. W. Frederick, East Buffalo, N. Y.
Roadmasters—M. J. Griffin, Kingston, N. Y.; F. D. Fisher, Syracuse, N. Y.; John B. Davis, Buffalo, N. Y.

NEW YORK, WOODHAVEN & ROCKAWAY—(See Long Island.)

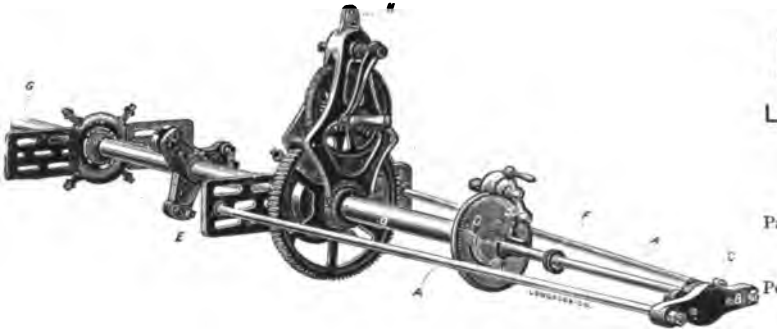
NORFOLK & VIRGINIA BEACH--Miles operated, 17.
President—Marshall Parker, New York.
Secretary and Treasurer--H. W. Page, Norfolk, Va.
Auditor—A. J. Armstrong, Norfolk, Va.

NORFOLK & WESTERN—Gauge, 5. Miles operated, 486. No. of locomotives, 82; passenger cars, 46; freight and miscellaneous cars, 1,733.
President—F. J. Kimball, Philadelphia, Pa.
General Superintendent—Jos. H. Sands, Roanoke, Va.
Comptroller—W. G. Macdowell, Philadelphia.
Treasurer—G. R. W. Armes, Philadelphia.
Auditors—E. E. Portlock, J. W. Coxe, Roanoke.
Division Superintendents—Frank Huger, Lynchburg, Va.; N. M. Osborne, Norfolk, Va.
Superintendent Motive Power—Chas. Blackwell, Roanoke, Va.
Chief Engineer—W. W. Coe, Roanoke
General Passenger and Ticket Agent—A. Pope, Roanoke.
General Freight Agent—C. P. Hatch, Roanoke.
Purchasing Agent—W. C DeArmond, Philadelphia.
Engineer Maintenance of Way—G. Hoffman, Lynchburg, Va.

NORFOLK SOUTHERN—Gauge, 4-8½. Miles operated, 74. No. of locomotives, 7; passenger cars, 6; freight and miscellaneous cars, 140.
President—William H. Philips, 214 Nineteenth st., New York.
Vice President—George C. Wood, 66½ Pine st., New York.
General Manager, Auditor and Purchasing Agent—M. K. King, Norfolk, Va.
Secretary—E. W. Corliss, 31 Pine st., New York.
Treasurer -W. G. Dominick, 74 Broadway, New York.
Train Master—R. E. Pegram, Berkley, Va.
General Passenger and Freight Agent—H. C. Hudgins, Norfolk, Va.
Master Mechanic—John S. Whitworth, Berkley, Va.
Supervisor—A. M. Hawkins, Berkley, Va.

NORTH EASTERN OF GEORGIA—Gauge, 5. Miles operated, 61; No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 17.
President—Pope Burrows, Athens, Ga.
Vice President—C. G. Talmage, Athens, Ga.
General Superintendent and Auditor—H. R. Bernard, Athens, Ga.
Chief Engineer—J. C. Turner, Clarkesville, Ga.
Secretary—E. R. Hodgson, Athens, Ga.
Treasurer—R. L. Moss, Athens, Ga.
Traffic Manager—Sol. Haas, Richmond, Va.
General Passenger Agent—Mercer Slaughter, Richmond, Va.
General Freight Agent—J. H. Drake. Richmond, Va.
Foreman of Locomotive and Car Repairs—E. W. Phelps, Athens, Ga.
Roadmaster—Joseph Landrum, Athens, Ga.

NORTHEASTERN OF SOUTH CAROLINA—Gauge, 5 Miles operated, 102, No. of locomotives, 22; passenger cars, 17; freight and miscellaneous cars. 318.
President—A. F. Ravenel, Charleston, S. C.
General Manager—R. R. Bridgers, Wilmington, N. C.
General Superintendent -J. F. Divine, Wilmington, N. C.
Traffic Manager—Sol Haas, Richmond, Va.
Engineer of Roadway—B. R. Dunn, Wilmington, N. C.
Secretary—C. Williman. Charleston, S. C.
Treasurer—B. S. Rhett, Charleston, S. C.
General Auditor—W. A. Riach, Wilmington, N. C.
General Ticket Agent—P. L. Cleapor, Charleston, S. C.
General Freight and Passenger Ag nt—T. M. Emerson, Wilmington, N. C.
Assistant Superintendent—W. N. Royall, Charleston, S. C.
Master Mechanic—John Bissett, Florence, S. C.
Master Car Builder—W. H. Day, Florence, S. C.
Roadmaster—G. B. Newcomb, Charleston, S. C.



PATENT "SPECIAL"

Improved Locomotive Cylinder Boring Machine.

L. B. FLANDERS MACHINE WORKS,
PEDRICK & AYER, Proprietors,
PHILADELPHIA, PA.

Special Tools for Railway Repair Shops.

Patent Portable Crank Pin Machine; Patent Portable Locomotive Cylinder Boring Machine; Patent Portable Valve Seat Rotary Planing Machine; Patent Portable Steam Chest Seat Milling Machine; Greenwood's Universal Planer Chuck; Portable Chuck for Valves; Campbells' Automatic Oilers for Locomotives; Patent Portable Wrist Pin Lathe.

ESTABLISHED IN 1836.

The Harlan & Hollingsworth Co.,

WILMINGTON, DELAWARE.

MANUFACTURERS OF FIRST-CLASS

RAILWAY PASSENGER EQUIPMENT.

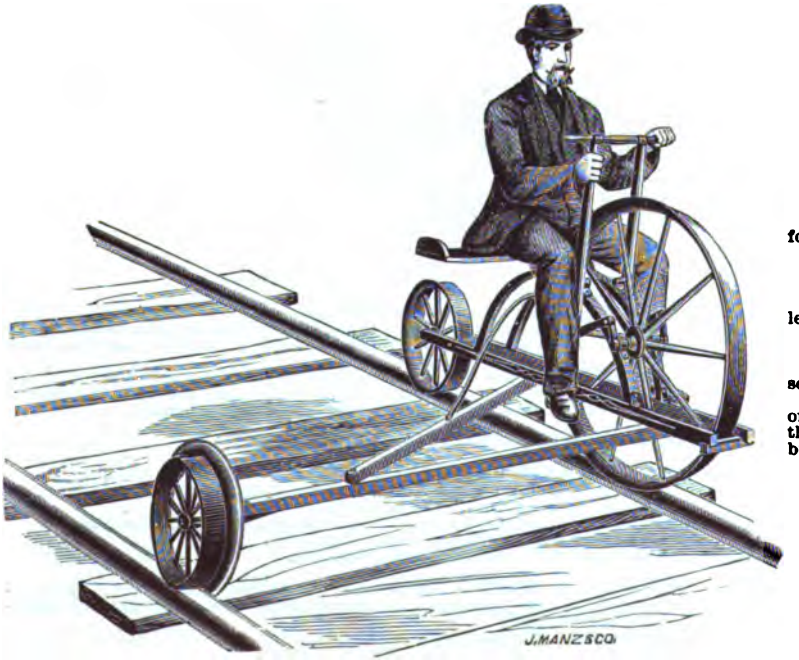
NORTHERN—Gauge, 4-8½. Miles operated, 82·2. No. of locomotives, 25; passenger cars, 18; freight and miscellaneous cars, 500.
President—Henry C. Sherburne, Concord, N. H.
Superintendent and Purchasing Agent—Geo. E. Todd, Concord, N. H.
Clerk of Corporation—Wm. L. Foster, Concord, N. H.
Treasurer—Geo. A. Kettell, Boston, Mass.
Cashier—Geo. K. Hazeltine, Concord, N. H.
General Ticket and Freight Agent—W. F. Simons, Concord, N. H.
General Baggage Agent—D. W. Waldron, Concord, N. H.
Fuel Agent—Geo. E. Shepard, Concord, N. H.
Foreman of Locomotive Repairs—C. C. Aspinwall, Concord, N. H.
Foreman of Car Repairs—Chas. Morgan, Concord, N. H.
Master Car Painter—C. W. Hazeltine, Concord, N. H.
Roadmasters—R. R. Smith, Canaan, N. H.; J. F. Richardson, Franklin, N. H.

NORTHERN & NORTH WESTERN—(Northern of Canada and Hamilton & North Western)—Gauge, 4-8½. No. of locomotives, 46; passenger cars, 47; freight and miscellaneous cars, 1,281.
Presidents—Northern, Hon. Frank Smith, Toronto, Can.; North Western, John Stuart, Hamilton, Ont.
General Manager—Samuel Barker, Toronto, Can.
Superintendent—James Webster, Toronto.
Secretary and Treasurer—Walter Townsend, Toronto.
Auditor—James H. Telfer, Toronto.
General Passenger and Freight Agent - Robert Kerr, Toronto.
Purchasing and Fuel Agent—W. C. Schreiber, Toronto.
Superintendent Motive Power and Machinery—Peter Clarke, Toronto.
Foremen of Locomotive Repairs—James Armitage, Toronto; Wm. Robinson, Hamilton, Ont.
Foremen of Car Repairs—M. A. Graham, Toronto.
Foreman Car Painter—Thos. Little, Toronto.
Roadmasters—Robert Bagnell, Hamilton, Ont.; John Dodson, Allandale, Ont., Can.; Jos. Walker, Allandale, Ont., Can.; Geo. Wilson, Allandale, Can.

NORTHERN CENTRAL—Gauge, 4-9½. Miles operated, 315. No. of locomotives, 152; passenger cars, 111; freight and miscellaneous cars, 5,500.
President—Geo. B. Roberts, Philadelphia, Pa.
Vice President—Frank Thomson, Philadelphia.
General Manager—Chas. E. Pugh, Philadelphia.
General Superintendent—Robert Neilson, Williamsport, Pa.
Chief Engineer—Wm. H. Brown, Philadelphia.
Assistant Engineer—L. H. Barker, Baltimore, Md.
Engineer Maintenance of Way—C. P. Perkins, Williamsport, Pa.
Secretary—Stephen W. White, Philadelphia.
Treasurer—John S. Leib, Baltimore.
Auditor—John Crowe, Baltimore.
General Passenger Agent—James R. Wood, Philadelphia.
Assistant General Ticket Agents—Ed. S. Young, Baltimore, Md.; E. S. Harrar, Williamsport, Pa.
General Freight Agent—John S. Wilson, Baltimore.
Purchasing Agent—A. W. Sumner, Baltimore.
Superintendent Motive Power—A. O. Dayton, Williamsport, Pa.
Master Mechanics—Jas Strode, Elmira, N. Y.; John S. Funk, Marysville, Pa.; J. M. Coale, Baltimore.
General Foremen Car Repairs—John C. Dyott, Elmira, N. Y.; G. W. Demarest, Baltimore.
Master Carpenters—John Minsker, York, Pa.; S. Smith, Elmira, N. Y.
Foreman of Car Painters—Adam A. Nicholl, Baltimore, Md.; Eugene Laing, Elmira, N. Y.
Division Superintendents—H. W. Knapp, Baltimore Division, Baltimore, Md.; Alfred Walter, Shamokin Division, Sunbury, Pa.; E. B. Westfall, Susquehanna Division, Williamsport, Pa.; Spencer Meade, Elmira & Canaan Division, Elmira, N. Y.
Supervisors—John Townsend, Lykens, Pa.; H. E. Passmore, Baltimore, Md. Jerry Bergan, Elmira, N. Y.; Wm. Jeudevine, Canandaigua, N. Y.; S. M. Gayman, Millersburg, Pa.; Francis Corcoran, Shamokin, Pa.; Frank W. Fite, Baltimore, Md.; C. A. Preston, Baltimore, Md.

NORTH PACIFIC COAST—Gauge, 3. Miles operated, 81. No. of locomotives, 11; passenger cars, 21; freight and miscellaneous cars, 284.
President—J. D. Walker, 408 California st., San Francisco.
General Superintendent—David Nye, 408 California st., San Francisco.
Asst. General Sup't—E. H. Shoemaker, San Rafael, Marin county, Cal.
General Freight and Purchasing Agent—W. F. Russell, 408 California st., San Francisco, Cal.
Secretary, Auditor, General Passenger and Ticket Agent—F. B. Latham, 408 California st., San Francisco.
Fuel Agent and Roadmaster—Hugh Foy, San Rafael, Marin county, Cal.
Master Mechanic—J. Fowler, Saucelito, M rin county.

NORTHERN PACIFIC—Gauge, 4-8½. Miles operated, 2,494. No. of locomotives, 387; passenger cars, 145; freight and miscellaneous cars, 9,394.
President—Robert Harris, 35 Wall st., New York.
Vice Presidents—T. F. Oakes, St. Paul, Minn.; A. J. Thomas, 35 Wall st, N.Y.



Patented October 16, 1883.

— THE —

Eclipse Railway Velocipede.

This device is clearly shown in the cut. The advantages claimed for it are as follows:

Simplicity of structure.

Lightness of weight (100 pounds).

It can be easily lifted from the track by one person.

The highest *PRACTICAL* rate of speed attainable with the least expenditure of manual force.

The force is applied direct to the driving wheel (no cog gears).

It has but few parts, and not liable to get out of order.

It can be worked by both the hands and feet, or by either separately.

It will carry either one person (as shown in the cut), or two, one on each side of the wheel, and both in convenient position to work the lever. It has been thoroughly tested, and is highly endorsed by mechanics and railroad men, competent to judge of its merits.

It is warranted to be all that is represented.

MANUFACTURED BY

E. B. PRESTON & CO.,

417 Fifth Avenue.

CHICAGO, ILL.

Division Engineer—E. B. Temple, Toronto.
Secretary and Treasurer—H. E. Suckling, Toronto.
Auditor—Richard Jones, Toronto.
General Passenger and Ticket Agent—D. McNicoll, Toronto.
General Freight Agent—E. Tiffin, Toronto.
Purchasing and Fuel Agent—John MacNab, Toronto.
Master of Transportation—J. W. Leonard, Toronto.
Mechanical Superintendent—D. Preston, Toronto.
Foreman of Locomotive Repairs—W. H. Kirkby, Parkdale, Ont.
Master Car Builder—Jos. O'Brien, Parkdale, Ont.
Roadmasters—E. Murphy, St. Thomas, Ont.; T. H. Flanagan, Streetsville, Ont.

ONTARIO & QUEBEC—(Operating Toronto, Grey & Bruce)—Gauge, 4-8½. Miles operated, 196. No. of locomotives, 22; passenger cars, 24; freight and miscellaneous cars, 316.
President—E. B. Osler, Toronto, Can.
General Superintendent—Wm. Whyte, Toronto.
Chief Engineer—A. L. Hertzberg, Toronto.
Division Engineer—Wm. Spry, Toronto.
Secretary and Treasurer—H. E. Suckling, Toronto.
Auditor—Richard Jones, Toronto.
General Passenger and Ticket Agent—D. McNicoll, Toronto.
General Freight Agent—E. Tiffin, Toronto.
Purchasing Agent—John MacNab, Toronto.
Mechanical Superintendent—D. Preston, Toronto.
Master of Transportation—James Wilson, Toronto.
Roadmasters—John Gordon, Toronto; H. Bagnall, Orangeville, Can.

OREGON & CALIFORNIA—Gauge, 4-8½. Miles operated, 441 Locomotives, 43; passenger cars, 26; freight and miscellaneous cars, 590.
President—H. Villard, New York.
Vice President—H. W. Corbett, New York.
General Manager—R. Koehler, Portland, Ore.
Second Vice President—J. N. Dolph, Portland, Ore.
General Superintendent—J. Brandt, Portland, Ore.
Superintendent of Traffic—John Muir, St. Paul, Minn.
Assistant Superintendent of Traffic—A. L. Stokes, Portland, Ore.
General Passenger and Ticket Agent—Chas. S. Fee, St. Paul, Minn.
Chief Engineer of Construction—Charles A. F. Morris, Portland, Ore.
Secretary and Treasurer—G. H. Andrews, Portland, Ore.
General Agent Passenger Department—E. P. Rogers, Portland, Ore.
Purchasing Agent—W. T. Bodley, Portland, Ore.
Master Mechanic—A. Brandt, Portland, Ore.
Superintendent Bridges—T. DeClarke, Portland, Ore.
Roadmasters—J. H. Walt and F. E. Happersett, Portland, Oregon; J. O. Johnson, Roseburg, Ore.; J. N. Ryan, Myrtle Creek, Ore.

OREGON RAILWAY & NAVIGATION CO.—Gauge, 4-8½. Miles operated, 427.3. Narrow gauge, 149.7 miles. Total miles operated, 557. No. of locomotives, standard gauge, 65; narrow gauge, 7; passenger cars, standard gauge, 30; narrow gauge, 6; freight and miscellaneous cars, standard gauge, 1,359; narrow gauge, 215.
President—T. Jefferson Coolidge, 60 State st., Boston, Mass.
Vice President and Manager—C. H. Prescott, Portland, Ore.
General Freight and Passenger Agent—A. L. Stokes, Portland, Ore.
Sup't Ocean Division—Messrs. Goodall, Perkins & Co., San Francisco, Cal.
Chief Engineer—H. Thielsen, Portland, Ore.
Assistant Chief Engineer—H. B. Thielsen, Portland, Ore.
Chief Engineer River Division—John Gates, Portland, Ore.
Comptroller—C. J. Smith, Portland, Ore.
Secretary—Theodore Wygant, Portland, Ore.
Assistant Secretary—T. H. Tyndale, Mills' Building, New York city.
Treasurer—Horace White, Mills' Building, New York city.
Auditor—J. H. Huddleson, Portland, Ore.
General Baggage Agent—Martin Winch, Portland, Ore.
Purchasing Agent—J. M. Drake, Portland, Ore.
Superintendent Railway Division—H. L. Rowe, Portland, Ore.
Superintendent River and Sound Divisions—Frank T. Dodge, Portland, Ore.
Master Mechanic—C. C. Hobart, The Dalles, Ore.
Master Car Builder—Chas. A. Phipps, The Dalles, Ore.
Master Car Painter—H. J. Fisher, Portland, Ore.
Master Carpenter—John Holland, Portland, Ore.
Roadmaster—G. R. Shaw, Portland, Ore.

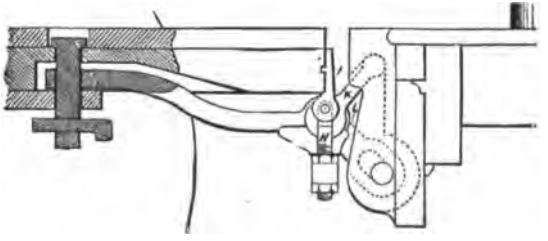
OTTUMWA & KIRKVILLE—Gauge, 4-8½. Miles operated, 51; No. of locomotives, 2; passengers cars, 1; freight and miscellaneous cars, 51.
President—T. J. Potter, Chicago, Ill.
Vice President and General Manager—J. C. Osgood, Ottumwa, Ia.
General Superintendent, Chief Engineer, General Passenger and Freight Agent—J. A. Kepler, Kirkville, Ia.
Superintendent—R. Roseer, Kirkville, Ia.
Secretary—O. M. Schenck, Ottumwa, Ia.

OWENSBORO & NASHVILLE—(See Louisville & Nashville.)

To Automatically Increase the Weight upon

DRIVERS OF LOCOMOTIVES,

Thus Utilizing the Full Power of the Engine.



It automatically increases the weight on the Drivers in Proportion as the pull increases, and gives a 30-ton engine the adhesion of a 40-ton engine. This enables railroads to make use of their old light and slipping locomotives. It saves in fuel, sand, tires and rail, and gives 25 per cent. more hauling power.

AUTOMATIC TRACTION DRAW-BAR CO.,

496 Broadway, ALBANY, N. Y

D. M. S. FERO, Pres't. T. C. CRAVEN, Mech. Eng. C. W. GIBBS, Sec'y and Treas.

GEO. B. CARPENTER & CO.

Successors to Gilbert Hubbard & Co.,

DEALERS IN

Cotton Duck,
Tents, Awnings,
Rain-Proof Covers.
Twines and Cordage,
Fish Nets, Seines,
Flags & Banners,
Blocks & Rope,
Wire Rope.

SEND FOR CIRCULARS.

202 TO 208 S. WATER STREET,

CHICAGO.

Treasurer—Lyman Cook, Burlington, Ia.
Auditor—Chas. P. Brown, Ottumwa, Ia.
Purchasing Agent—Geo. W. Stevens, Chicago.
Master Mechanic—Frank Marquis, Kirkville, Ia.

OXFORD & HENDERSON—Gauge, 4-8½. Miles operated, 13; No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 10.
President—A. H. A. Williams, Oxford, N. C.
General Superintendent—James A. White, Oxford, N. C.
Chief Engineer, Master Mechanic and Foreman Car Repairs—James E. Lawrence, Oxford, N. C.
Treasurer—W. B. Gulick, Oxford, N. C.
Roadmaster—J. J. W. Harris, Oxford, N. C.

PACIFIC COAST—Gauge, 3. No. of locomotives, 6; passenger cars, 6; freight and miscellaneous cars, 163.
President—Chas. Goodall, San Francisco, Cal.
Manager and Purchas ng Agent—J. M. Fillmore, San Luis Obispo, Cal.
Secretary—Edwin Goodall, San Francisco.
Treasurer—Goodall, Perkins & Co., San Francisco.
Auditor—E. W. Sells, San Luis Obispo, Cal.
Assistant General Ticket, Baggage and Freight Agent—W. R. Price, San Luis Obispo, Cal.
Master Mechanic and Car Builder—W. H. Masterman, San Luis Obispo, Cal.

PAINESVILLE & YOUNGSTOWN—Gauge. 3. Miles operated, 61. No. of locomotives, 7; passenger cars, 8; freight and miscellaneous cars, 200.
Receiver—Ralph K. Paige, Painesville, O.
Superintendent and General Purchasing Agent—J. A. Newcome, Painesville, O
Foreman of Car Repairs—I. E. Magarkil, Painesville, O.
Roadmaster—Michael Lynch, Painesville, O.

PANAMA—Gauge, 5. Miles operated, 47½.
President—J. G. McCullough, 37 Wall st., New York.
Vice President—R. W Thompson.
General Superintendent—J. J. Tribe, Aspinwall, U. S. C.
Secretary, Treasurer and Purchasing Agent—E. Z. Penfield, 37 Wall st., N. Y.
Master Mechanic—D. P. Wright, Aspinwall, U. S. C.
Roadmaster—C. E. Spaulding, Aspinwall, U. S. C.

PASSUMPSIC—Gauge, 4-8½. Miles operated, 145. No. of locomotives, 29; passenger cars, 17; freight and miscellaneous cars, 1,110.
President and Purchasing Agent—Emmons Raymond. 95 Milk st., Boston.
Vice President—W. K, Blodgett, 95 Milk st., Boston.
General Superintendent—H. E. Folsom, Lyndonville, Vt.
Secretary—H. C. Cleveland, Coventry, Vt.
Treasurer—N. P. Lovering, 95 Milk st., Boston.
General Passenger and Ticket Agent—N. P. Lovering, Jr., Lyndonville, Vt.
General Baggage Agent—I. W. Cunningham, Lyndonville, Vt.
General Freight Agent—W. J. Willard, Lyndonville, Vt.
Fuel Agent—E. E. Cleveland, Lyndonville, Vt.
Master Mechanic—L. L. Brigham, Lyndonville, Vt.
Master Car Builder—L. F. Woodward, Lyndonville, Vt.
Master Car Painter—L. Davis, Lyndonville, Vt.
Roadmaster—W. G. Roberts, Lyndonville, Vt.

PAULDING & CECIL—Gauge, 4-8½. Miles operated, 6. No. of locomotives, 3; passenger cars, 2; freight and miscellaneous cars, 26.
President, Treasurer and Purchasing Agent—S. Frank Eagle. Cecil, O.
Secretary—A. S. Latty, Defiance, O.
Roadmaster—Ezra Long, Cecil, O.

PAW PAW—Gauge, 3. Miles operated, 4. (Rolling stock is leased by T. & S. H R. Co.
President—F. B. Adams, Lawton, Mich.
Superintendent—John Ihling, Lawton, Mich.
Secretary—Henry Ford, Lawton, Mich.
Treasurer—Edwin Martin, Paw Paw, Mich.

PEACH BOTTOM—Gauge, 3. Miles operated, 20½. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 10.
President—C. W. Leavitt. 161 Broadway, New York.
Superintendent and Secretary - Benj. B. Newton, Oxford, Pa.
Assistant Superintendent and Auditor—G. Renie Dickey, Oxford, Pa.
Foreman of Locomotive Repairs—Joseph Hudders, Oxford, Pa.
Assistant Supervisor—John McMichael, Hopewell Cotton Works, Pa.

PEMIGAWASSET VALLEY—(See Boston, Concord, Montreal & White Mountains.)

PENNSYLVANIA & NEW YORK—(See Lehigh Valley.)

PENNSYLVANIA COAL COMPANY'S ROAD—Gauge, 4-3. Miles operated, 63. Gravity road, stationary engines, 23; passenger cars, 11; freight and miscellaneous cars, 3,260.

WHEN BUYING, BUY THE BEST.

GLIDDEN PATENT STEEL BARB WIRE.
"Two-Point," "Four-Point," and "Thick-Set."

MANUFACTURED BY

WASHBURN & MOEN MANUFACTURING CO.,

WORCESTER, MASS.

New York Warehouse, - - 16 CLIFF ST.
Chicago Warehouse, - 107 & 109 LAKE ST.
Montreal Warehouse, - 28 ST. PETER ST.

BRINKERHOFF PATENT METALLIC FENCING.
Galvanized. With and Without Barbs.

President—Geo. A. Hoyt, Stamford, Ct.
General Superintendent—J. B. Smith, Dunmore, Pa.
Master Mechanic—Andrew Crane, Dunmore.
Master Car Builder—Geo. W. Simpson, Dunmore.
Roadmaster—Wm. Ocksender, Dunmore.

PENNSYLVANIA COMPANY—Gauge, 4-9. Miles operated, 966. No. of locomotives, 449; passenger cars, 306; freight and miscellaneous cars, 23,634.
President—George B. Roberts, Philadelphia, Pa.
First Vice President—J. N. McCullough, Pittsburgh, Pa.
Second Vice President—Wm. Thaw, Pittsburgh, Pa.
Third Vice President and Comptroller—Thos. D. Messler, Pittsburgh, Pa.
Manager—Wm. A. Baldwin, Pittsburgh, Pa.
Assistant Manager Cleveland & Pittsburgh Division—R. F. Smith, Cleveland, O.
General Superintendent—John Thomas, Pittsburgh, Pa.
Chief Engineer—Felician Slataper, Pittsburgh, Pa.
Principal Assistant Chief Engineer—T. Rodd, Pittsburgh, Pa.
Division Engineers—T. Jackson, Ft. Wayne, Ind.; I. Linton, Cleveland, O.
Secretary—S. B. Ligett, Pittsburgh, Pa.
Treasurer—John E. Davidson, Pittsburgh, Pa.
Auditors—John P. Farley, Pittsburgh, Pa.; Cleveland & Pittsburgh Division, James Instan, Cleveland, O.
General Passenger and Ticket Agent—E. A. Ford, Pittsburgh, Pa.
General Baggage Agent—R. R. Bentley, Pittsburgh, Pa.
General Freight Agent—Wm. Stewart, Pittsburgh, Pa.
Purchasing Agent—Wm. Mullins, Pittsburgh, Pa.
Superintendent Motive Power—Joseph Wood, Ft. Wayne, Ind.
Master Mechanics—Eastern Division, Geo. J. Parkin, Allegheny, Pa.; D. M. Peppard, Crestline, O.; Western Division, F. D. Casanave, Ft. Wayne, Ind.; Cleveland & Pittsburgh Division, W. F. Beardsley, Wellsville, O.; Erie & Ashtabula Division, J. A. Wood, Erie, Pa.
Foremen of Repairs—Eastern Division, Henry Riddle, Allegheny, Pa; Western Division, Israel Lee, Ft. Wayne, Ind.; D. S. McCardell, Chicago, Ill.; Cleveland & Pittsburgh Division, A. Steinbrenner, Cleveland, O.; J. B. Goff, Wellsville, O.
Superintendents—Eastern Division, A. B. Starr, Allegheny, Pa; Western Division, C. D. Law, Ft. Wayne, Ind.; Erie & Ashtabula Division, J. M. Kimball, Cross Cut P. O., Pa.; Toledo Division, J. S. Morris, Toledo, O.; Cleveland & Pittsburgh Division, P. Bruner, Wellsville, O.
Roadmasters—Eastern Division, W. H. Potter, Allegheny, Pa.; Western Division, D. L. Slataper, Ft. Wayne, Ind.; Erie & Astabula Division, H. W. Byers, Cross Cut P. O., Pa.; Toledo Division, Chas. M. Cook, Toledo, O.; Cleveland & Pittsburgh Division, Thos. Dickson, Wellsville, O.
Supervisors Eastern Division—G. W. Kettering, Allegheny, Pa.; Joseph Kilch, Enon, Pa.; F. Barber, Alliance, O.; G. M. Farley, Wooster, O. Supervisors Western Division—D. S. Petersen, Upper Sandusky, O.; J. M. Craig, Lima, O.; A. M. Morrison, Plymouth, Ind; D. E. Simons, Valparaiso, Ind.; Josiah Gray, Chicago, Ill. Supervisors Erie & Ashtabula Division—C. M. Large, Jamestown, Pa.; F. W. Patterson, Warren, O. Supervisor Toledo Division—John K. Holland, Toledo, O. Cleveland & Pittsburgh Division—Robert Cockburn, Wellsville, O.; Wm. Richardson, Ravenna, O.

PENNSYLVANIA RAILROAD—Gauge, 4-9. Miles operated, 2,081. No. of locomotives, 1,235; passenger cars, 923; freight and miscellaneous cars, 36,489. (This includes only the Pennsylvania Railroad Division, United Roads of New Jersey Division and Philadelphia & Erie Division. The other roads controlled and operated by this company are separately reported.)
President—George B. Roberts, Philadelphia.
Vice Presidents—First, Edmund Smith, Philadelphia; Second, Frank Thomson, Philadelphia; Third, J. N. Du Barry, Philadelphia; Fourth, John P. Green, Philadelphia.
General Manager—Charles E. Pugh, Philadelphia.
Treasurer—John D. Taylor, Philadelphia.
Secretary—John C. Sims, Jr., Philadelphia.
Comptroller—Robert W. Downing, Philadelphia.
Assistant Comptroller and Auditor Passenger Receipts—M. Riebenack, Philadelphia.
Auditor Freight Receipts—George M. Taylor, Philadelphia.
Auditor Disbursements—Thomas R. Davis, Philadelphia.
General Freight Agent—John S. Wilson, Philadelphia.
General Passenger Agent—James R. Wood, Philadelphia.
General Baggage Agent—T. J. McWade, Philadelphia.
Chief Engineer—Wm. H. Brown, Philadelphia.
Consulting Engineer—W. Hasell Wilson, Philadelphia.
Engineer Bridges and Buildings—Joseph M. Wilson, Philadelphia.
General Superintendent Motive Power Lines East of Pittsburgh and Erie—Theo. N. Ely, Altoona, Pa.
Superintendent Transportation—John Reilly, Philadelphia.
Purchasing Agent—Enoch Lewis, Philadelphia.
Division Superintendents—S. M. Prevost, General Superintendent Pennsylvania Railroad Division, Altoona; Thos. Gucker, Philadelphia; J. B. Hutchinson, York; O. E. McClellan, Harrisburg; James Reed, Altoona; Robert Pitcairn, Pittsburgh; A. P. Kirkland, Blairsville; S. S. Blair, Tyrone; Wm.

PENNSYLVANIA STEEL COMPANY.

INTERLOCKING SWITCH AND SIGNAL APPARATUS, *SECURES ABSOLUTE SAFETY AT CROSSINGS, JUNCTIONS, ETC.*

A Variety of Patterns, Extensively Adopted. } **STEEL RAIL FROGS AND CROSSINGS,** { Favorable Prices. Best Improvements.

SPLIT and SAFETY **SWITCHES** { Best and Latest Improvements.

20 PATTERNS OF SWITCH STANDS.

STEEL RAILS, BARS & FORGINGS. { of Bessemer and O. H. Steel.

Capacity 250,000 tons of Steel per year.

General Office: { 208 So. Fourth St., PHILADELPHIA.

New York Office: { 260 Broadway, NEW YORK.

Works & Supt's Office: *STEELTON, PA.*

The Best and Most Economical Frog Ever Used in Main Line Tracks.

The Frog, Switch and Signal Department of this company has new and very extensive shops, with very superior facilities for the manufacture of Frogs, Switches, etc., and invites inquiries for prices, on any desired plan of construction.

La Fayette Car Works,

LA FAYETTE, IND.

FREIGHT AND CABOOSE CARS OF ALL KINDS.

Hand and Push Cars.

Warehouse Trucks and Baggage Barrows.

CAR WHEELS & CASTINGS.

B. F. MASTEN, Prest. C. E. GORE, Supt.

M. Phillips, Lewistown, Pa.; Robt. L. Holliday, Bedford, Pa; D. M. Watt, Pittsburgh; F. Wolcott Jackson, Gen,l Superintendent United Railroads of New Jersey Division, Jersey City; Robert E. Pettit, Jersey City; I. S. Buckelew, Camden; J. A. Anderson, Superintendent Bolvidere Division, Lambertville, N. J.; R. Neilson, General Superintendent Philadelphia & Erie Railroad Division, Williamsport, Pa.; E. B. Westfall, Williamsport; Alfred Walter, Sunbury, Pa; Thos. A. Roberts, Renovo, Pa; J. W. Reynolds, Erie, Pa.

Superintendents of Motive Power—Frank L. Sheppard, Altoona, Pa.; H S. Hayward. Jersey City, N. J.; A. O. Dayton, Williamsport, Pa.

Master Mechanics—H. D. Garrett, West Philadelphia, Pa.: A. O. Baker, Columbia, Pa.; E. L. Caum, Harrisburg, Pa.; Isaiah Paxson, Lewistown, Pa.; Wm. H. Carothers, Tyrone, Pa.; Geo. W. Strattan, Altoona, Pa.; Redinger Zane, Conemaugh, Pa.; W. B. Norris, Blairsville, Pa.; D. O. Shaver, Twenty-eighth street, Pittsburgh, Pa.; L. A. Bosdevex, Meadows, N. J.; Thomas Kerr, South Amboy, N. J.; W. McAllister, Camden, den, N. J.; Richard McDowell, Lambertville, N. J.; H. Canfield, 294 Washington street, Hoboken. N. J.; Wm. T. Smith, Erie, Pa.; Wm. L. Holman, Renovo, Clinton county, Pa.; Henry K. Stout, Sunbury, Pa.

General Foremen of Car Repairs—I. W. Van Houten, West Philadelphia, Pa.; Sam'l W. Myers, Harrisburg, Pa.; John Currie, Huntingdon, Pa; John P. Levan, Altoona, Pa.; M. H. Falls, Blairsville, Pa.; J. G. Stewart, Torrens, Allegheny county, Pa.; E. F. Bosdevex, Meadows, 248 W. Fourteenth street, New York; D. H. Baker, 240 Third street, Jersey City, N. J.; P. S. Bogart, South Amboy, N. J.; Jas. Wilson, South Amboy, N. J.; C. C. Williams, Camden, N. J.; A. Rabeau, Camden, N. J.; J. C. Moore, Lambertville, N. J.; David Cowley, Erie, Pa.; Robt. M. Messimer, Renovo, Clinton county, Pa.; Geo. J. Mason, Sunbury, Pa.

Foremen of Car Painters—F. P. McCullen, West Philadelphia, Pa.; Cyrus Weeks, Harrisburg, Pa.; Fred. S. Ball, Altoona, Pa.; John Eyman, Torrens. Allegheny county, Pa.; Jacob Hoesley, Meadows, 25 Astor street, Newark, N. J.; Peter A. Duttlinger, Erie, Pa.; A. J. Weidler, Renovo, Clinton county, Pa.; Henry Laidler, Sunbury, Pa.; B. F. Wynn, Blairsville, Pa.

Engineers Maintenance of Way—M. W. Thomson, Altoona, Pa.; C. P. Perkins, Williamsport, Pa.; E. F. Brooks, Jersey City, N. J.

Assistant Engineers—Wilson Brown, Philadelphia, Pa.; W. Heyward Myers, Harrisburg, Pa.; A. P. Gest, Pittsburgh, Pa.; John Brotherlin, South Side, Pittsburgh, Pa.; C. K. Lawrence. Blairsville, Pa.; A. E. Reed, Tyrone, Pa.; Geo. W. Creighton, Sunbury, Pa.; J. R. Davis, Williamsport, Pa.; D. H. Lovell, Renovo, Pa.; J. Supplee, Erie, Pa.; R. P. Snowden, Lambertville, N. J.; J. H. Lukens Camden, N. J.

Supervisors—J. G. Craig, West Philadelphia; Jno. McGraw, Downington, Pa.; G. A. Starkweather, Lancaster, Pa.; Louis H. Parke, Middletown, Pa.; C.W. King, Harrisburg, Pa.; C.W. Mayer, Mifflin, Pa.; T. H. Dobson, Huntington, Pa.; Jas. Cullen, Spruce Creek, Pa.; F. F. Robb, Altoona, Pa.; F. Ehrenfeld, Gallitzin, Pa; W. N. Hays, New Florence, Pa.; Isaac Good, Wall, Pa; Jesse Yarnall, Pittsburgh; S. Dobson, Greensburg, Pa.; C. J. Bechdolt, South Side, Pittsburgh; W. Ranson, Blairsville, Pa.; H. N. Miller, Freeport, T. B. Gilson, (Assistant, C. A. Weakley) Hollidaysburg, Pa.; C. G. Almy, Tyrone, Pa.; Stewart Greek, Tyrone, Pa.; G. W. Paxson, Parkersburg, Pa.; J. S. Nichols, Columbia, Pa.; Louis Blackstone, York, Pa.; John McDonald, Driftwood, Pa.; M. Cashman, St. Mary s, Pa.; John O'Brien, Lambertville, N.J.; Jas. R. Smith, Newark, N. J.; Victor Wierman. New Brunswick, N. J.; P. D. Ford, Tullytown, Pa.; F. J. Potter. Bordentown, N. J.; W. A. Houston, Mt. Holly, N. J.

PENNSYLVANIA, SLATINGTON & NEW ENGLAND—Gauge, 4-8½. Miles operated, 45.

President—N. S. Rue, 77 and 79 Nassau street. New York.
Vice President and Treasurer—S. M. Schank, 77 and 79 Nassau street, N. Y.
General Superintendent—Charles H. Stanton, 77 and 79 Nassau street, N. Y.
Chief Engineer—A. B. Paine, 77 and 79 Nassau street, New York.
Secretary—S. C. Stanton, Jr., 77 and 79 Nassau street, New York.
General Passenger, Ticket, Freight and Purchasing Agent—E. J. Fallon, 77 and 79 Nassau street, New York.

PENSACOLA & ATLANTIC—Gauge, 5. Miles operated, 161. No. of locomotives, 10; passenger cars, 8; freight and miscellaneous cars, 68.

President—M. H. Smith, Louisville, Ky.
Vice President and General Superintendent—W. D. Chipley, Pensacola, Fla.
Chief Engineer and Roadmaster—C. A. Davis, Pensacola, Fla.
Secretary and Auditor—R. M. Cary, Jr., Pensacola, Fla.
Treasurer—F. B. Bonifay, Pensacola, Fla.
General Freight and Passenger Agent—F. C. Shepard, Pensacola, Fla.
Master Mechanic—W. D. Robb, Pensacola, Fla.
Supervisors—Eastern Division, W. C. Clifton, Marianna, Fla.; Western Division, W. S. Baldwin, Lake de Funiak, Fla.; Bridges, N. M. Mayson, Marianna, Fla.

PENSACOLA & PERDIDO—Gauge, 5. No. of locomotives, 5; passenger cars, 1; freight and miscellaneous cars, 90.

President and General Superintendent—B. F. Simmons. Pensacola, Fla.
Secretary, Treasurer, Auditor, and Purchasing Agent—H. W. Simmons, Pensacola, Fla.
Master Mechanic—S. C. Schutte, Pensacola, Fla.

Master Car Builder—John Reynolds, Pensacola, Fla.
Roadmaster—Thos. Hollihan, Pensacola, Fla.

PEOPLE'S—Gauge, 4-8½. Miles operated, 15. No. of locomotives, 2; passenger cars, 8; freight and miscellaneous cars, 6.
President—Charles Baber, Pottsville, Pa.
Superintendent, Secretary and Treasurer—Wm. D. Pollard, Pottsville, Pa.

PEORIA & PEKIN UNION—Gauge, 4-8½. Miles operated, 20. No. of locomotives, 12; passenger cars, 1; freight and miscellaneous cars, 103.
President—A. L. Hopkins, New York.
Vice President—C. R. Cummings, Chicago.
General Superintendent and Passenger, Freight and Purchasing Agent—T. B. Burnett, Peoria, Ill.
Secretary and Treasurer—R. A. Bunker, Peoria, Ill.
Master Mechanic and Master Car Builder—R. F. Hurd, Peoria, Ill.
Assistant Superintendent—F. B. Ogden, Peoria, Ill.
Roadmaster—W. M. Pearce, Peoria, Ill.

PEORIA, DECATUR & EVANSVILLE—Gauge, 4-8½. Miles operated, 254. No. of locomotives, 29; passenger cars, 13; freight and miscellaneous cars, 1,451.
President—C. R. Cummings, Chicago, Ill.
Vice President, General Manager and Purchasing Agent—Geo. L. Bradbury, Peoria, Ill.
Superintendent—O. W. Bell, Mattoon, Ill.
Chief Engineer—Jas. W. Morris, Mattoon, Ill.
Secretary—B. G. Mitchell, New York.
Treasurer—R. A. Bunker, Peoria, Ill.
Acting Auditor—W. A. Wildback, Peoria, Ill.
Traffic Manager—H. C. Parker, Peoria, Ill.
General Passenger and Ticket Agent—S. M. Miller, Peoria, Ill.
Master Mechanic—P. Reilly, Mattoon, Ill.
Division Roadmasters—J. L. Steiner, Grayville, Ill.; J. E. Miller, Delevan, Ill.

PERKIOMEN—Gauge, 4-8½. Miles operated, 38·5.
President—A. H. Seipt, Skippack, Montgomery county, Pa.
Assistant President—Jas. Boyd, Norristown, Pa.
General Superintendent—D. B. Clack, Pawling, Chester county, Pa.
Chief Engineer and Auditor—Geo. B. Boggs, Norristown, Pa.
Secretary—Philip Super, Pennsburg, Montgomery county, Pa.
Treasurer—Howard Boyd, Norristown, Pa.
General Passenger, Ticket and Freight Agent—Geo. W. Yost, Norristown, Pa.
Roadmaster—Robert Moyer, Collegeville, Montgomery county, Pa.

PETERSBURG—Gauge, 4. Miles operated, 59. No. of locomotives, 10; passenger cars, 6; freight and miscellaneous cars, 121.
President—E. T. D Myers, Richmond, Va.
General Superintendent—R. M. Sully, Petersburg, Va.
Treasurer—W. P. Taylor, Petersburg, Pa.
Auditor and Purchasing Agent—L. E. Clark, Petersburg, Pa.
Traffic Manager—Lot Haas, Richmond, Va.
General Passenger and Freight Agent—Wm. Emerson, Wilmington, N. C.
General Baggage Agent—J. H. Hill, Richmond, Va.
Master Mechanic—R. B. Andrews, Petersburg, Va.
Master Car Builder—I. W. Fleming, Petersburg, Va
Foreman Car Painters—John Smith, Petersburg, Va.

PHILADELPHIA & ATLANTIC CITY—Gauge, 3-6. Miles operated, 54.4. No. of locomotives, 11; passenger cars, 47; freight and miscellaneous cars, 74.
President—Geo. de B. Keim, Philadelphia.
Secretary—Albert Foster, Philadelphia.
Treasurer—John Welch, Philadelphia.
General Manager—John E. Wootten, Philadelphia.
General Passenger and Ticket Agent—C. G. Hancock, Philadelphia.
Superintendent—Frank S. Urie, Philadelphia.

PHILADEPHIA & READING—Gauge, 4-8½. Miles operated, 1,456.8. No. of locomotives, 907; passenger cars, 922; freight and miscellaneous cars, 55,853.
President—George de B. Keim, Philadelphia, Pa.
Treasurer—W. A. Church, Philadelphia.
Secretary—A. Foster, Philadelphia.
General Solicitor—George R. Kaercher, Philadelphia.
General Manager—J. E. Wootten, Philadelphia.
General Traffic Manager—J. Lowrie Bell, Philadelphia.
Comptroller—D. Jones, Philadelphia.
General Auditor Traffic Receipts—John Heebner, Philadelphia.
Auditor Coal and Express Traffic—H. W. Hancock, Philadelphia.
Auditor Merchandise and Passenger Traffic—W. B. Scott, Philadelphia.
General Passenger and Ticket Agent—C. G. Hancock, Philadelphia.
Purchasing Agent—W. S. Wilson, Philadelphia.
Superintendent of Transportation—George Eltz, Reading, Pa.
Engineer of Machinery—L. B. Paxson, Reading, Pa.

National Safety Paper.

No. ..... New York, ... 188

National Safety Paper Company

Pay to the order of .....

..... Dollars.

..... NATIONAL SAFETY PAPER. .....

"A perfect protection against fraudulent alteration."—*N. Y. Tribune.*

This Paper guards fully against any Alteration either by **Erasure or Chemicals.**

Fill up this Check with Heavy, Distinct Writing and with good black Ink, and then **TRY TO ALTER IT.** The experimen will satisfy you that it **CANNOT BE ALTERED** Without Detection. **Any chemical that will remove ink will dis color this paper beyond restoration—in this lies its safety.**

AUGUSTINE SMITH & CO.,
110 and 112 Nassau Street, New York

GEO. LA MONTE,
Superintendent.

OBSERVE TRADE MARK—BEWARE OF IMITATIONS.

NATIONAL SAFETY PAPER.

MADE IN TWO COLORS, EITHER PINK OR BLUE.

[*Patented in the United States, Great Britain, France and Belgium.*]

To Prevent "RAISING" Checks, Drafts, etc,

This Paper received a Silver Medal and Diploma from the American Institute in 1873.

The Cincinnati Industrial Exposition awarded it a Silver Medal in 1875.

At the Centennial Exhibition, 1876, it stood every test, AND IT IS THE ONLY PAPER THAT WAS NOT SUCCESSFULLY ALTERED.

The American Institute, in 1877, awarded the great Special Medal to this Paper as the only absolute security against fraud ; at the same time and by the same experts, *Francis & Loutrel's* Safety tint, the *Commercial Safety* paper and *Underwood's Chemical* paper were successfully altered.

AT THE PARIS EXPOSITION in 1878, THIS PAPER RECEIVED THE HIGHEST AWARD, confirming the numerous awards received in this country. It guards against every alteration, and is the ONLY ABSOLUTE PROTECTION.

FACTS TO BE CONSIDERED.

A check on ordinary paper can be easily altered.

The Supreme Court has decided that the maker of a check is bound to "use all due diligence to protect it."

Check-raising is becoming very frequent.

Millions of dollars have been paid on raised checks.

The **National Safety Paper** is the **only positive protection.**

It costs but a trifle extra. It is **more important** to use this paper to protect checks and drafts than to use locks and safes for valuables.

During the last nine years it has been used for over twelve hundred million Checks, Drafts and Exchanges. There has **not been a single instance of successful alteration.**

An offer to give one thousand dollars to any person who can make a successful alteration on the National Safety Paper has been made. Nobody has earned the money, and the manufactures feel sure that nobody ever will.

One Condition: Write a heavy distinct hand, and use *good ink.*

AUGUSTINE SMITH & CO.,

Sole Manufacturers,

110 & 112 Nassau Street, New York.

TO PREVENT LOSSES HAVE YOUR CHECKS, DRAFTS, etc. PRINTED ON THIS PAPER.

Chief Engineer—W. Lorenz, Philadelphia.
Assistant Chief Engineer—W. H. Bines, Philadelphia.
General Baggage Agent—Geo. A. Schaffer, Philadelphia.
Division General Freight Agents—N. R. Turner, James Colhoun, Philadelphia; P. H. Wyckoff, New York.
Assistant Division General Freight Agent—W. J. Parmentier, Red Bank, N. J.
Supt. North Penn & Bound Brook Division—I. A. Sweigard, Philadelphia.
Supt. New Jersey Central Division—W. W. Stearns, Elizabeth, N. J.
Supt. New Jersey Southern Division—R. Blodgett, Manchester, N. J.
Supt. Lehigh & Susquehanna Division—W. S. Polhemus, Mauch Chunk, Pa.
Supt. Mahanoy & Susquehanna Division—J. H. Olhausen, Palo Alto, Pa.
Supt. Schuylkill & Susquehanna Branch—H. W. Tracy, Pine Grove, Pa.
Asst. Supts. Mahanoy & Susquehanna Division—D. C. Reinhardt, Catawissa, Pa.; A. A. Hesser. Mahanoy Plane, Pa.
Chief Roadmaster—H. K. Nichols, Philadelphia.
Assistant Roadmaster—Wm. Hunter, Philadelphia.
Division Roadmasters—M. F. Bonzano, Philadelphia; I. E. Umstead, Pottstown, Pa.; E. Chamberlain, Reading, Pa.; J. C. Patterson, Lebanon, Pa.; Wm. G. Johnson, Pine Grove, Pa.; P. A. Taylor, Pottsville, Pa.; S. H. Kupp, Mahanoy Plane, Pa.; Wm. H. Dechant, Tamaqua, Pa.; Wm. G. Yetter, Catawissa, Pa.; W. H. Peddle, Elizabeth, N. J.; W. V. Clark, Red Bank, N. J.; Geo. W. Twining, Mauch Chunk, Pa.

PHILADELPHIA BRANCH OF BALTIMORE & OHIO—Gauge, 4-8½. Under construction, 95 miles.
President—John W. Garrett, Baltimore, Md.
Vice Presidents—R. Garrett and S. Spencer, Baltimore, Md.
Chief Engineer—H. T. Douglas, Baltimore, Md.
Division Engineers—Conway R. Howard and Cabel Breckinridge, Jr.
Treasurer—W. J. Ijams, Baltimore, Md.
Auditor—W. T. Thelin, Baltimore, Md.
Purchasing Agent—N. S. Hill, Baltimore, Md.

PHILADELPHIA, NEWTOWN & NEW YORK—Gauge, 4-8½. Miles operated, 22·8.
President—James Boyd, 33 East Main st., Norristown, Pa.
General Superintendent—W. M. Geary, Third and Berks st., Philadelphia.
Secretary, Treasurer and Purchasing Agent—Howard Boyd, 33 East Main st. Norristown, Pa.
General Passenger, Ticket and Freight Agent—G. W. Yost, 33 East Main st., Norristown, Pa.

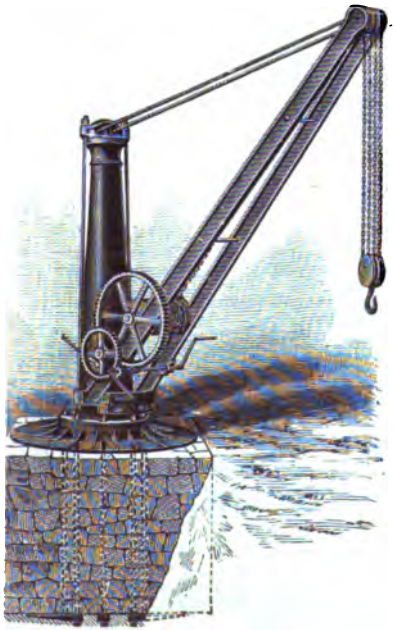
PHILADELPHIA, WILMINGTON & BALTIMORE—Gauge, 4-8½ and 4-9. Miles operated, 380.08. No. of locomotives, 121; passenger cars, 246; freight and miscellaneous cars, 1,531.
President—Isaac Hinckley, Philadelphia, Pa.
General Superintendent—H. F. Kenney, Philadelphia.
Secretary and Treasurer—Robert Craven, 233 South Fourth street, Philadelphia.
Master Mechanic—H. D. Gordon, Wilmington, Del.
Master Car Builder—W. H. Lungren, Wilmington.
Master Car Painter—J. Schiller, Wilmington.
Division Superintendents—L. K. Lodge, Media, Pa.; I. N. Mills, Wilmington, Del.; H. H. Carter, Wilmington, Del.
Supervisors—R. H. Seeley, Philadelphia, Pa.; Sam Boyd, Perryville, Md.; Robert McClintock, Baltimore, Md.; John Mahoney, Wilmington, Del.; R. R. Darlington, Media, Pa.
(The other officers of this road are the same as those of Pennsylvania Railroad, which controls it.)

PITTSBURGH & CASTLE SHANNON—Gauge, 3-4. Miles operated, 7. No. of locomotives, 5; passenger cars, 3; freight and miscellaneous cars, 300
President—John H. Ortman, Pittsburgh, Pa.
General Superintendent and Purchasing Agent, James M. Bailey, Pittsburgh.
Chief Engineer—James S. Devlin, Pittsburgh.
Secretary and Treasurer—John Jahn, Pittsburgh.
Auditor, General Passenger and Freight Agent—E. J. Reamer, Pittsburgh.
General Ticket Agent—B. C. Ogden, Pittsburgh.
General Baggage Agent—D. Hirshbine, Pittsburgh.
Superintendent Motive Power and Machinery—H. Ward, Castle Shannon, Pa.
Master Car Builder—W. E. Long, Pittsburgh.
Roadmaster—Phillip Saxton, Pittsburgh.

PITTSBURGH & LAKE ERIE (Including Pittsburgh, McKeesport & Youghiogheny, leased).—Gauge, 4-8¾. Miles operated, 126. No. of locomotives, 51; passenger cars, 44; freight and miscellaneous cars, 1,742.
President—John Newell, Cleveland, O.
Vice President—David Hostetter, Pittsburgh, Pa.
General Manager—W. C. Quincy, Pittsburgh.
Master of Transportation—R. W. Jones, Pittsburgh.
Assistant Master of Transportati n—D. C. Bachelor, Pittsburgh.
Chief Engineer P., McK. & Y. R.—J. Wainwright, Pittsburgh.
Assistant Engineer—P. R. McCullough, Pittsburgh,

THE FARREL FOUNDRY AND MACHINE CO.,

ANSONIA, CONN.



RAILROAD CRANES

4, 6, 10, 15 & 20 Ton Capacity.

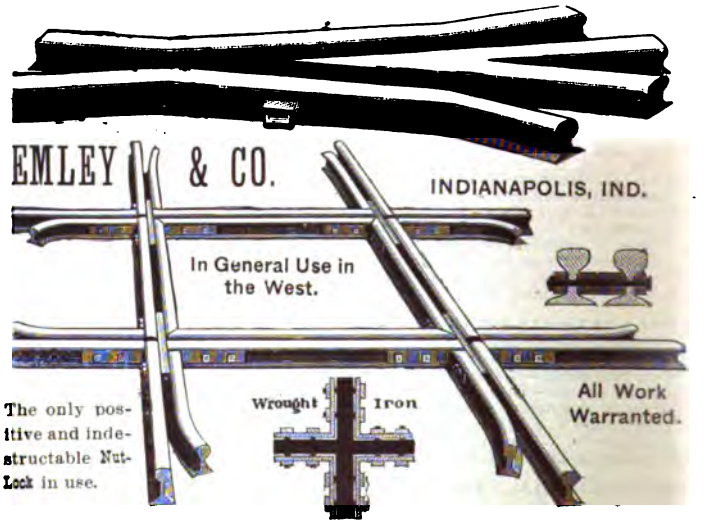
Send for Circular.

ROCK & ORE BREAKERS

— AND —

CRUSHERS.

RIVETED CLAMP FROG.



We now use four RIVETS of ⅜ round, best charcoal iron in addition to the clamp, in binding the parts of the frog together, avoiding all annoyance from loose bolts and nuts. This entirely new departure in frog construction, together with our present manner of holding the clamp in position, and our method of forming the point, makes

DECIDEDLY THE BEST FROG THE MARKET.

Auditor, General Passenger and Ticket Agent—A. D. Smith, Pittsburgh.
General Freight Agent—E. D. Nettleton, Pittsburgh.
Purchasing Agent—D. H. Hostetter, Pittsburgh.
Fuel Agent, Master Mechanic and Car Builder—S. W. Haines, Pittsburgh.
Roadmasters—John W. Corcoran, Beaver Falls, Pa.; P. Glancy, Shoustown, Pa.; John Callor, Pittsburgh; Chas. Erickson, Pittsburgh.

PITTSBURGH & WESTERN—Gauge, 4-8½ and 3. Miles operated, 213·5. No. of locomotives, 32; passenger cars, 47; freight and miscellaneous cars, 819.
President—James Callery, Allegheny City, Pa.
Vice President—Solon Humphreys, New York.
General Manager—Thomas King, Allegheny City.
Assistant General Manager and Purchasing Agent, N. Bruce, Allegheny City.
Superintendent—J. T. Johnson, Allegheny City.
Chief Engineer—H. A. Schwannecke, Allegheny City.
Secretary—H. D. Campbell, Allegheny City.
Treasurer—J. P. Curtis, New York.
Auditor, Gen'l Passenger, Ticket and Freight Agent—J. L. Kirk, Allegheny City
Master Mechanic—W. M. Flaharhan, Allegheny City.
Foreman of Locomotive Repairs—W. J. McElroy, Allegheny City.
Roadmasters and Supervisors—J. Londen, Pittsburgh Division, Allegheny, Pa.; J. C. McCune, Foxburg Division, Butler, Pa.; A. D. Cowls, Northern Division, Foxburg, Pa.

PITTSBURGH, BRADFORD & BUFFALO—(See Pittsburgh & Western.)

PITTSBURGH, CHARTIERS & YOUGHIOGHENY—Gauge, 4-8¾. Miles operated, 16.1. No. of locomotives, 4; passenger cars, 4; freight and miscellaneous cars, 325.
President—J. E. Schwartz, Pittsburgh Pa.
Vice President and General Manager—Geo. S. Griscom, Pittsburgh.
Chief Engineer—Geo. S. Davison, Pittsburgh.
Secretary and Treasurer—R. T. Hill, Pittsburgh, Pa.

PITTSBURGH, CINCINNATI & ST. LOUIS—Gauge, 4-9. Miles operated, 1,501. No. of locomotives, 453; passenger cars, 338; freight and miscellaneous cars, 10,455.
President—George B. Roberts, Philadelphia, Pa.
Vice Presidents—J. N. McCullough, Wm. Thaw, T. D. Messler, Pittsburgh, Pa.
Manager—James McCrea, Columbus, O.
Chief Engineer—M. J. Becker, Columbus, O.
Assistant Chief Engineer—P. R. Johnson, Columbus.
Division Engineers—G. G. Darlington and 6 others.
Secretary—S. B. Leggett, Pittsburgh.
Treasurer—John E. Davidson, Pittsburgh.
Auditor—A. McEleney. Pittsburgh.
Superintendent Transportation—S. H. Church, Columbus, O.
General Passenger and Ticket Agent—E. A. Ford, Pittsburgh.
General Baggage Agent—R. R. Bentley, Pittsburgh.
General Freight Agent—W. Stewart, Pittsburgh.
General Purchasing Agent—W. Mullins, Pittsburgh.
Superintendent Motive Power—Edward B. Wall, Columbus, O.
Master Mechanics—C. B. Streat, Dennison, O.; R. Curtis, Columbus, O.; W. W. Reynolds, Logansport, Ind.; Leroy Kells, Pendleton, O.; Leroy Kells, Lancaster. O.; W. Swanston. Jeffersonville, Ind.
Division Superintendents—E. B. Taylor, Pittsburgh, Pa.; W. F. Black, Zanesville, O.; R. Peters, Cincinnati, O.; E. W. McKenna, Louisville, Ky.; J. J. Turner, Indianapolis, Ind.; Chas. Watts, Logansport, Ind.; J. F. Miller, Richmond. Ind.

PITTSBURGH, CLEVELAND & TOLEDO—Gauge, 4-8¾, Miles operated, 78.
President—C. H. Andrews, Youngstown, O.
Secretary—H. W. Calvin, Youngstown, O.
General Superintendent—W. C. Agnew, Youngstown, O.
General Freight and Passenger Agent—F. A. Deane, Youngstown, O.
General Ticket Agent and Auditor—E. S. Thoma, Youngstown, O.

PONTIAC, OXFORD & PORT AUSTIN—Gauge, 4-8½. Miles operated, 100. No. of locomotives, 7; passenger cars, 6; freight and miscellaneous cars, 112.
President and General Manager—Geo. W. Debevoise, Pontiac, Mich.
Vice President—C. A. Carpenter, Eames, Mich.
General Superintendent and Purchasing Agent—Jas. Houstin, Pontiac, Mich.
Chief Engineer—Geo. Nettleton, Pontiac, Mich.
Secretary and Treasurer—F. H. Carroll, Pontiac, Mich.
Auditor—W. E. Sanford, Pontiac, Mich.
Fuel Agent—Geo. Kelly, Pontiac, Mich.
Foreman of Locomotive Repairs—W. Carhart, Pontiac, Mich.
Foreman of Car Repairs—Geo. Cadogan. Pontiac, Mich.
Roadmaster—John Lynch, Pontiac, Mich.

PORT HURON & NORTHWESTERN—Gauge, 3. Miles operated, 220. No. of locomotives, 14; passenger cars, 26; freight and miscellaneous cars, 300
President—John P. Sanborn, Port Huron, Mich.
Vice President—C. F. Harrington, Port Huron.
General Mnnager and Purchasing Agent—Henry McMorran, Port Huron.
General Superintendent—J. R. Wadsworth, Port Huron.
Chief Engineer—A. L. Reed, Port Huron.
Secretary and Treasurer—F. L. Wells, Port Huron.
Auditor—Geo. Bent, Port Huron,
General Passenger, Ticket and Freight Agent—C. C. Jenkins, Port Huron.
Master Mechanic—Charles Deiffenbach, Port Huron.
Master Car Builder—Benjamin Hillier, Port Huron.
Master Car Painter—Frank Meyers, Port Huron.
Roadmasters—John Dingwell and Rody Whalen.

PORT JERVIS & MONTICELLO—Gauge, 4-8½. Miles operated, 24. No. of locomotives, 3; passenger cars, 6; freight and miscellaneous cars, 4.
President—Henry Day, New York.
Vice President—F. J. Lepuyster, Port Jervis, N. Y.
Gen'l Manager, Auditor and Purchasing Agent—M. V. Heller, Port Jervis, N.Y.
Secretary—Jas. H. Hayward, New York.
Treasurer—Gordon Norrie, New York.
Roadmaster—A. Vanaken, Monticello.

PORTLAND & OGDENSBURG—Gauge, 4 8½. No. of locomotives, 11; passenger cars, 25; freight and miscellaneous cars, 284.
President—S. J. Anderson, Portland, Me.
General Superintendent and Purchasing Agent—J. Hamilton, Portland, Me.
Chief Engineer—J. F. Anderson, Portland, Me.
Secretary and General Passenger and Ticket Agent—C. H. Foye, Portland.
Acting General Freight Agent—W. Tolman, Portland, Me.
Roadmaster—E. Newcomb.

PORTLAND & ROCHESTER—Gauge, 4-8½. Miles operated, 52. No. of locomotives, 8; passenger cars, 9; freight and miscellaneous cars, 217.
President—Geo. P. Wescott, Portland. Me.
Supt', General Ticket and Purchasing Agent—J. W. Peters, Portland, Me.
Clerk and Treasurer—W. H. Conadt, Portland, Me.
General Freight Agent—A. Hersey, Portland, Me.
Master Mechanic—E. H. C. Tompson, Portland, Me.
Master Car Builder—David Dow, Portland, Me.
Roadmaster—J. Morrill, Portland, Me.

POTOMAC, FREDERICKSBURGH & PIEDMONT—Gauge, 3. Miles operated. 38. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 36.
President—L. H. Richards, Fredericksburg, Va.
General Superintendent—Will M. Grafton, Fredericksburg.
Acting Secretary—J. B. Peyton, Fredericksburg.
Master of Machinery—W. J. Sweigard, Fredericksburg.
Roadmaster—Wm. Goldsmith, Fredericksburg.

POUGHKEEPSIE, HARTFORD & BOSTON—Gauge, 4-8½. Miles, 47. No. of locomotives, 4; passenger cars, 4; freight and miscellaneous cars, 60.
President—George P. Pelton, Poughkeepsie, N. Y.
Vice President—John F. Winslow, Poughkeepsie.
General Superintendent and General Passenger, Freight and Purchasing Agent—J. A. Perkins, Poughkeepsie.
Master Mechanic and Foreman of Car Repairs—John L. Donaldson, Poughkeepsie.
Roadmaster—J. D. Neal, Poughkeepsie.

PRINCE EDWARD ISLAND—Gauge, 36. Miles operated, 200. No. of locomotives, 20; passenger cars, 28; freight and miscellaneous cars, 304.
Minister of Railways—Sir Charles Tupper, K.C.M.G., Ottawa, Canada.
Deputy Minister of Railways—T. Trudeau, Ottawa.
General Manager—Collingwood Schreiber, Ottawa.
Superintendent—James Coleman, Charlottetown, P. E. I.
Accountant and Auditor—W. T. Huggan, Charlottetown, P. E. I.
Master Mechanic—Joseph Unsworth, Charlottetown, P. E. I.
Ship foreman of Locomotive Repairs—W. H. Anderson, Charlottetown, P. E. I.
Foreman of Car Repairs—D. W. Fraser, Charlottetown, P. E. I.
Foreman Car Painter—Charles Simmons, Charlottetown, P. E. I.
Roadmasters—Henry Houle, John McPherson, Charlottetown, P. E. I.

PROFILE & FRANCONIA NOTCH—Gauge, 3. Miles operated, 13½. No. of locomotives, 3; passenger cars, 7; freight and miscellaneous cars, 6.
President—Emmons Raymond, Boston.
General Superintendent, Treasurer and Purchasing Agent—C. H. Greenleaf. Profile House, N. H.
General Ticket Agent—W. R. Brackett, Plymouth, N. H.

PROSPECT PARK & CONEY ISLAND—Gauge, 4-8½. Miles operated, 12½. No. of locomotives, 9; horse cars, 71; steam passenger cars, 43; freight and miscellaneous cars, 9.

President—Andrew R. Culver, Brooklyn, N. Y.
General Superintendent, Chief Engineer, General Passenger, Purchasing and Fuel Agent, Master Car Builder and Painter—R. Schermerhorn, Brooklyn.
Secretary—George H. Smith, Brooklyn, N. Y.
Treasurer and General Ticket Agent—Allen C. Washington, Brooklyn.
Master Mechanic—Martin Painter, Brooklyn.
Foreman of Locomotive Repairs—Alex. Rodgers, Brooklyn.
Foreman of Car Repairs—Daniel Slater, Brooklyn.
Foreman of Car Painters—James Carny, Brooklyn.
Superintendent of Horse Car Department (Brooklyn Division)—R. H. Attlesey, Brooklyn.
Foreman of Track Repairs—William S. Hempstead, Brooklyn.

PROVIDENCE & SPRINGFIELD—Gauge, 4-8½. Miles operated, 23. No. of locomotives, 4; passenger cars, 5; freight and miscellaneous cars, 88.
President, General Manager and Purchasing Agent—William Tinkham, Providence, R. I.
Secretary—Jabez C. Wright, Providence.
Treasurer and Auditor—E. W. Tinkham, Providence.
Master Mechanic and Foreman of Locomotive Repairs—George P. Richardson, Providence.
Roadmaster—R. T. Bishop, Providence.

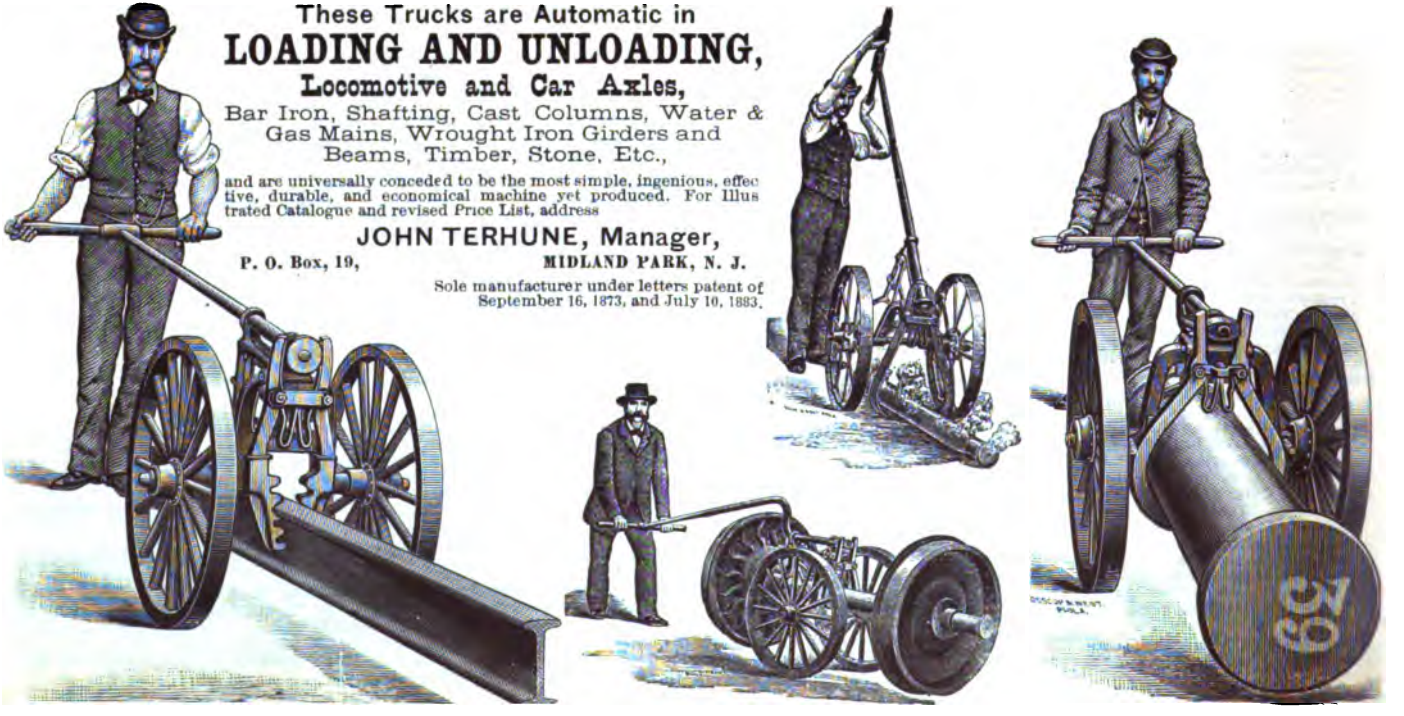
PROVIDENCE & WORCESTER—Gauge, 4-8½. Miles operated, 50. No. of locomotives, 34; passenger cars, 53; freight and miscellaneous cars, 1,208.
President—George A. Leet, Providence, R. I.
Assistant General Superintendent and Purchasing Agent—William E. Chamberlin, Providence.
Chief Engineer—John W. Ellis, Woonsocket, R. I.
Assistant Chief Engineer—Willard Kent, Woonsocket.
Treasurer—Treasurer, John R. Balch, Providence.
Auditor—Jas. A. Windsor, Providence.
General Passenger and Ticket Agent—William M. Durfee, Providence.
General Freight Agent—J. E. Bacon, Providence.
Supt. of Locomotive and Car Departments—A. G. Riggs, Providence.
Foreman of Locomotive Repairs—Russell Hawkes, Providence.
Foreman of Car Repairs—D. W. Hunter, Valley Falls, R. I.
Foreman Car Painters—H. W. Walter, Valley Falls.
Engineer and Roadmaster in Chief—W. F. Ellis, Woonsocket, R. I.
Division Roadmasters—W. P. Comstock, Providence, R. I.; J. J. Powers, Worcester, Mass.

PROVIDENCE WARREN & BRISTOL—Gauge, 4-8½. Miles operated, 17. No. of locomotives, 6; passenger cars, 11; freight and miscellaneous cars, 57.
President—Henry A. Whitney, Boston, Mass.
General Superintendent—A. A. Folsom, Boston, Mass.
Chief Engineer, Secretary and Purchasing Agent—Waterman Stone, Providence, R. I.
Treasurer—B. B. Torrey, Boston, Mass.
General Ticket Agent—S. Arthur Perkins, Providence, R. I.
Master Mechanic and Car Builder—Rufus Smith, Bristol, R. I.

QUEBEC & LAKE ST. JOHN—Gauge, 4-8½. Miles operated, 46. No. of locomotives, 5; passenger cars, 4; freight and miscellaneous cars, 60.
President—William Withall, Quebec.
Vice President—L. Beaudet, Quebec.
Secretary and Manager—J. G. Scott, Quebec
Assistant Superintendent—P. Allen, St. Raymond, Can.
Chief Engineer—James Cadman, St. Raymond, Can.
Assistant Chief Engineer—Jean F. Guay, Raymond, Can.
Division Engineer—E. A. Hoare, Quebec.
Consulting Engineers—A. L. Light, J. G. Scott, Quebec.
Auditor—James Lennon, Quebec.
Master Mechanic—Alex. Minto, St. Ambroise, Can.
Roadmaster—Michael Carpenter, St. Raymond, Can.

QUEBEC CENTRAL—Gauge, 4-8½. Miles operated, 152.
President—Hon. J. G. Robertson, Sherbrooke, Can.
Vice President—R. D. Morkill, Sherbrooke, Can.
General Manager—James R. Woodward, Sherbrooke, Can.
General Superintendent—A. Steele, Sherbrooke, Can.
Secretary—J. A. Archambault, Sherbrooke, Can.
Cashier, Acting General Passenger and General Freight and Purchasing Agent—R. D. Morkill, Jr., Sherbrooke, Can.
Master Mechanic—J. Seiveright, Sherbrooke, Can.
Roadmasters—Richard Grant, Beauce Junction, Can.; P. Dion, Levis, Can.

RALEIGH & GASTON AND RALEIGH & AUGUSTA AIR LINE—Gauge, 4-8½. Miles operated, 194. No. of locomotives, 26; passenger cars, 26; freight and miscellaneous cars, 541.
President—John M. Robinson, Baltimore, Md.
General Manager and Purchasing Agent—John C. Winder, Raleigh, N. C.
Superintendent—Wm. Smith, Raleigh, N. C.


These Trucks are Automatic in
LOADING AND UNLOADING,
Locomotive and Car Axles,
Bar Iron, Shafting, Cast Columns, Water & Gas Mains, Wrought Iron Girders and Beams, Timber, Stone, Etc.,
and are universally conceded to be the most simple, ingenious, effective, durable, and economical machine yet produced. For Illustrated Catalogue and revised Price List, address
JOHN TERHUNE, Manager,
P. O. Box, 19,
MIDLAND PARK, N. J.
Sole manufacturer under letters patent of September 16, 1873, and July 10, 1883.

Secretary and Treasurer—W. W. Vass, Raleigh, N. C.
Auditor—J. B. Martin, Raleigh, N C.
Traffic Manager—Sol. Haas, Richmond, Va.
Gen'l Passenger, Ticket and Freight Agent—F. W. Clark, Wilmington, N. C.
General Baggage Agent—J. H. Hill, Richmond, Va.
Master Mechanic—B. R. Harding, Raleigh, N. C.
Foreman of Locomotive Repairs—P. C. Fleming, Raleigh, N. C.
Foreman of Car Shops—R. T. Bishop, Raleigh, N. C.
Foreman Car Painters—C. C. Williams, Raleigh, N. C.
Roadmasters—J. R. Thrower, R. & G., Henderson, N. C.; H. P. Guep, R. & A. A. L., Cary, N. C.

RICHMOND & ALLEGHANY—Gauge, 4-8½. Miles operated, 262·54. No of locomotives, 19; passenger cars, 19; freight and miscellaneous cars, 827.
President—Francis O. French, New York.
Vice President—John J. McCook, New York.
Receiver—Lawrence Myers, New York.
Receiver and Manager—Decatur Axtell, Richmond, Va.
Consulting Engineer—Henry D. Whitcomb, Richmond.
Engineer—R. Shirreffs, Richmond.
Secretary and Assistant to President—Eugene R. Leland, New York.
Treasurer—Robert B. Smead, Richmond.
Auditor—Louis P. Ecker, Richmond.
Gen'l Passenger, Ticket and Freight Agent—John R. Macmurdo, Richmond.
Purchasing and Fuel Agent and Car Accountant—M. Sweeney, Richmond.
Master Mechanic—Geo. D. Harris, Richmond.
Trainmaster and Superintendent Telegraph—A. D. Bethard, Richmond.
Master Carpenter—C. S. Hazlewood, Lynchburg, Va.
Roadmasters—A. J. Gillespie, Richmond; N. P. Baker, Buchanan, Va.

RICHMOND & DANVILLE—Gauge, 5 and 3. Miles operated, 846.78. Locomotives, 123; passenger cars, 104; freight and miscellaneous cars, 2,583.
President—A. S. Buford, Richmond, Va.
First Vice President—C. S. Brice, New York.
Second Vice President and General Manager—A. L. Rives, Richmond.
Assistant General Manager—Peyton Randolph, Richmond.
Secretary—Richard Brooke, Richmond.
Treasurer—W. E. Turner, Richmond.
Auditor—E. A Barber, Richmond.
Traffic Manager—Sol. Haas, Richmond.
General Passenger Agent—M. Slaughter, Richmond.
General Freight Agent—J. H. Drake, Richmond.
Purchasing Agent—J. P. Minetree, Richmond.
Superintendent Motive Power—R. D. Wade, Richmond.
Master Mechanics—T. W. Gentry, Richmond, Va.; W. H. Turrentine, Company's Shops, N. C.; W. A. Walden, Atlanta, Ga.
Master Car Builders—J. B. Vaughan, Richmond; J. C. Holt, Company's Shops, N. C.; Z. T. Smith, Atlanta, Ga.
Master Car Painter—W. S. Ledford, Richmond.
Division Superintendents—W. H. Green, Richmond; A. B. Andrews, Raleigh, N. C.; I. Y. Sage, Atlanta, Ga.
Roadmasters—W. D. Lamb, West Point, Va.; H. L. Fry, Amelia C. H., Va.; John A. Dodson, Greensboro, N. C.

RICHMOND & PETERSBURG—Gauge, 4-8½. Miles operated, 23. No. of locomotives, 9; passenger cars, 8; freight and miscellaneous cars, 93.
President—Fred. R. Scott, Richmond, Va.
General Manager—R. R. Bridgers, Wilmington, N. C.
Superintendent and Chief Engineer—J. R. Kenly, Richmond.
Treasurer—M. W. Yarrington, Richmond.
Auditor and Purchasing Agent—W. R. Jones, Richmond.
Traffic Manager—Sol Haas, Richmond.
General Passenger and Ticket Agent—T. M. Emerson, Wilmington, N. C.
General Baggage Agent—Jas. H. Hill, Richmond.
Master Mechanic and Car Builder—John O'Brien, Richmond.
Roadmaster—T. J. Whitton, Richmond.

RICHMOND, FREDERICKSBURG & POTOMAC—Gauge, 4-9. Miles operated, 81. No. locomotives, 14; passenger cars, 16; freight and miscellaneous cars, 131.
President—Joseph P. Brinton, Richmond, Va.
General Superintendent and Chief Engineer—E. T. D. Myers, Richmond, Va.
General Passenger, Ticket and Freight Agent—C. A. Taylor, Richmond, Va.
Purchasing Agent—T. L. Courtney, Richmond, Va.
Master Mechanic—H. Kuhn, Richmond, Va.
Master Car Builder—W. H. Trainham, Richmond, Va.
Master Car Painter—W. H. Dean, Richmond, Va.
Secretary and Treasurer—James B. Winston, Richmond, Va.
Auditor—L. P. Ellis, Richmond, Va.

RIO GRANDE—Gauge, 3-6. Miles operated, 22.50. No. of locomotives, 3; Passenger cars, 3; freight and miscellaneous cars, 37.
President—F. San Roman, Brownsville, Tex.
Receiver, General Manager and Sup't—M. J. Gomila, Brownsville, Tex.

Chief Engineer and Master Mechanic—Geo. W. Rendall, Brownsville, Tex.
Treasurer—Alex. Werbiski, Brownsville, Tex.
Secretary—Wm. A. Valls, Brownsville, Tex.
General Passenger, Ticket and Freight Agent—H. Sherwood, Brownsville, Tex.
Master Car Builder—H. Markwood, Brownsville, Tex.
Roadmaster—F. Havre, Brownsville, Tex.

RIO GRANDE & PECOS—Gauge, 4-8½. Miles operated, 27.
President—A. C. Hunt, Laredo, Tex.
Secretary—M. A. Shaffenburg, Laredo, Tex.
Manager—W. W. Hungerford, Laredo, Tex.
Treasurer—E. L. Winslow, Laredo, Tex.

ROCHESTER & LAKE ONTARIO—Gauge, 4-8½. Miles operated, 6. No. of locomotives, 2; passenger cars, 8; freight cars, 2.
President—M. Filon, Rochester, N. Y.
Vice President—N. H. Galusha, Rochester.
Secretary and Treasurer—N. B. Ellison, Rochester.
Master Mechanic—L. Ham, Rochester.

ROCHESTER & PITTSBURGH—Gauge, 4-8½. Miles operated, 296·26. No. of locomotives, 60; passenger cars, 42; freight and miscellaneous cars, 2,737.
President—Walston H. Brown, New York.
Vice President—Geo. F. Stone, New York.
General Manager and Purchasing Agent—Geo. E. Merchant, Rochester. N. Y.
General Superintendent—James T. Gardner, Rochester.
Division Superintendent—E. W. Jordan, Buffalo, N. Y.
Chief Engineer—William E. Hoyt, Rochester.
Assistant Chief Engineer—J. M. Floesch, Rochester.
Div. Engineers—F. W. Gilcreast, Bradford, Pa.; E. G. Boughton, Du Bois, Pa.
Secretary—Thomas F. Wentworth, New York.
Treasurer—Fred. A. Brown, New York.
Auditor—John F. Dinkey, Rochester.
General Passenger Agent—Isaiah S. Emery, Rochester.
General Freight Agent—Jas. M. Sawyer, Rochester.
Master Mechanic and Master Car Builder—Jacob P. Hovey, Rochester.
Division Master Mechanics—J. R. Sherburne, Buffalo; C. W. Mills, Rochester; C. J. Cooper, Bradford, Pa.; W. H. Griggs, Salamanca, N. Y.
Foreman of Car Repairs—W. H. Angell, Rochester.
Master Car Painter—T. N. LeRoss, Rochester.
General Roadmaster—F. C. Whitelock, Rochester.
Supervisors—John McGarvey, Du Bois, Pa.; Geo. W. Johnson, Springville, N. Y.; Geo. W. White, Rochester.

ROCK ISLAND & MERCER COUNTY—Gauge, 4-8½. Miles operated, 26. No. of locomotives, 3; passenger cars, 3; freight and miscellaneous cars, 116.
President—P. L. Cable, Rock Island, Ill.
Vice President—R. R. Cable, Rock Island, Ill.
General Superintendent, Ticket, Freight and Purchasing Agent—B. T. Cable, Rock Island, Ill.
Secretary and Treasurer—C. Lynde, Rock Island.

ROCK ISLAND & PEORIA—Gauge, 4-8½. Miles operated, 91. No. of locomotives, 10; passenger cars, 6; freight and miscellaneous cars, 150.
President—P. L. Cable, Rock Island, Ill.
Vice President and General Superintendent—R. R. Cable, Chicago.
Assistant General Superintendent, Treasurer and Purchasing Agent—H. B. Sudlow, Rock Island, Ill.
Secretary—C. Lynde, Rock Island, Ill.
Auditor—H. C. Whitridge, Rock Island, Ill.
General Passenger, Ticket and Freight Agent—A. N. Morton, Rock Island, Ill.
Master Mechanic—Jos. Elder, Peoria, Ill.
Roadmaster—J. E. Breckenridge, Galva, Ill.

ROGERSVILLE & JEFFERSON—Gauge, 5. Miles operated, 16. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 5.
President—H. M. Aiken, Rogersville, Tenn.
General Superintendent, Purchasing Agent and Master Mechanic—Charles M. Lenty, Rogersville, Tenn.
Secretary & Treasurer—James Cooper, Rogersville Junction, Tenn.
General Passenger and Ticket Agent—T. H. Johnson, Rogersville, Tenn.
General Baggage Agent—Joseph Helton, Rogersville, Tenn.
Secretary & Treasurer—James Cooper, Rogersville, Tenn.
General Freight Agent—T. H. Johnson, Rogersville, Tenn.
Roadmasters—Wm. Price, Otes, Tenn.; Sid Barnes, Austin's Mills, Tenn.

ROME—Gauge, 5. Miles operated, 20. No. of locomotives, 2; passenger cars, 3; freight and miscellaneous cars, 10.
President, General Manager and Treasurer—Eben Hillyer, Rome, Ga.
General Passenger and Freight Agent—James A. Smith, Rome, Ga.
General Ticket Agent and Secretary—H. A. Patillo, Rome, Ga.
Master Mechanic—O. W. Harbin, Rome, Ga.

ROME, WATERTOWN & OGDENSBURGH—Gauge, 4-8½. Miles operated, 417. No. of locomotives, 61; passenger cars, 54; mail and baggage cars, 20; freight and miscellaneous cars, 1,757.

President—Charles Parsons, 10 Pine st., New York.
Vice President—C. S. Day, 45 Wall st., New York.
Assistant to President—Charles Parsons, Jr., 10 Pine st., New York.
General Manager and Purchasing Agent—H. M. Britton, Oswego, N. Y.
Secretary and Treasurer—J. A. Lawyer, Watertown, N. Y.
Auditor—C. L. Martin, Oswego, N. Y.
General Passenger and Freight Agent—E. M. Moore, Oswego.
General Baggage Agent—C. D. Bonds, Oswego, N. Y.
Superintendent Transportation—W. W. Currier, Oswego.
Superintendent Motive Power and Machinery and Master Car Builder—Geo. H. Haselton, Oswego.
Foreman of Locomotive Repairs—E. Van Vleck, Oswego.
Foreman of Car Repairs—W. E. Rockfellow, Oswego.
Foremen Car Painters—D. E. Brown, Oswego.
Division Superintendent—J. D. Remington, Watertown, N. Y.: W. H. Chauncey, Oswego.
General Roadmaster—H. A. Smith, Oswego.
Assistant Roadmasters—C. H. Barker, Charlotte, N. Y.; S. Bishop, Oswego.; E. Dennison, DeKalb, N. Y.; C. Bowers, Rome, N. Y.

RUMFORD FALLS & BUCKFIELD—Gauge, 4-8½. Miles operated, 30. No. of locomotives, 3; passenger cars, 2; freight and miscellaneous cars, 70.
President—W. L. Putnam, Portland, Me.
Vice President—Otis Hayford, Canton, Me.
General Superintendent and Roadmaster—L. L. Lincoln, Portland, Me.
Chief Engineer—S. L. Stephenson, Gorham, Me.
Treasurer—S. C. Andrews, Portland, Me.
General Ticket Agent—R. C. Bradford, Portland, Me.
General Freight and Purchasing Agent and Master Mechanic—L. L. Lincoln, Portland, Me.
Foreman of Locomotive Repairs—M. R. Davis, Canton, Me.

ST. CLAIRSVILLE—Gauge, 3. Miles operated, 7. No. of locomotives, 1; passenger cars, 1; freight and miscellaneous cars, 2.
President and Purchasing Agent—I. H. Patterson, St. Clairsville, O.
General Managers—Patterson & Trull, St. Clairsville, O.
Secretary—A. W. Carroll, St. Clairsville, O.
Treasurer—J. R. Mitchell, St. Clairsville, O.

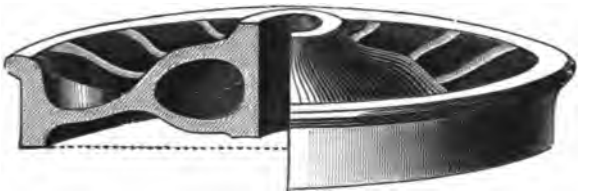
ST. CROIX & PENOBSCOT—Gauge, 4-8½. Miles operated, 28. No. of locomotives, 4; passenger cars, 4; freight and miscellaneous cars, 201.
President—Geo. M. Porter, St. Stephens, N. B.
General Manager and Purchasing Agent—S. W. Haycock, Calais, Me.
Chief Engineer—D. S. Maxwell, Calais, Me.
Secretary and Treasurer—Samuel Black, Calais, Me.
Auditor—L. G. Downes, Calais, Me.
General Passenger and Ticket Agent—H. A. Black, Calais, Me.
General Baggage and Freight Agent—John Larner, Calais, Me.
Fuel Agent—Martin Ryans, Baring, Me.
Master Mechanic—Geo. H. Corson, Milltown, Me.
Master Car Builder—H. C. Tinker, Milltown, Me.
Foreman of Car Repairs—Geo. A. Hanson, Milltown, Me.
Master Car Painter—Wm. Leeman, Calais, Me.
Roadmasters—Joseph Doyle, Calais, Me.; Wm. Lucas, Jr., Milltown, Me.; Simeon Phinney, Baring, Me.

ST. HELEN, HOUGHTON LAKE & WESTERN—Gauge, 4-8½. Miles operated, 13.
Vice President—A. L. Stephens, Detroit, Mich.
Secretary and Treasurer—H. Stephens, Jr., Detroit, Mich.
General Manager—Z. C. Jessop, Detroit, Mich.

ST. JOE & DESLOGE—Gauge, 3. Miles operated, 13. No. of locomotives, 4; passenger cars, 2; freight and miscellaneous cars, 75.
General Superintendent and Purchasing Agent—T. T. Onderdonk, Bonne Terre, Mo.
Treasurer—F. P. Graves, Bonne Terre, Mo.
Auditor—Jas. P. Wilde, Bonne Terre, Mo.
Passenger and Freight Agent—E. T. Shaw, Bonne Terre, Mo.
Foreman of Car Repairs—E. B. Keyes, Bonne Terre, Mo.
Supervisor—Geo. A. Pearce, Bonne Terre, Mo.

ST. JOHN'S & LAKE EUSTIS—Gauge, 3. Miles operated, 36. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 23.
President—A. J. Lane, Macon, Ga.
General Superintendent, Master Mechanic and Roadmaster—W. J. Jarvis, Fort Mason, Fla.
Chief Engineer—Gordon Gardner, Fort Mason, Fla.
Treasurer—T. J. Davies, Beech Island, S. C.
Auditor—W. R. Marquis, Fort Mason, Fla.
General Passenger, Freight and Purchasing Agent—W. H. Treadwell, Fort Mason, Fla.
Supervisors—A. J. Spratt, Glendale, Fla.; C. P. Cumings, Cumings' Camp, Fla.; W. O. Thompson, Mt. Homer, Fla.

CAYUTA
CAR WHEELS.



Superior for Every Kind of Railway Service,

MANUFACTURED FROM A MIXTURE OF THE MOST

CELEBRATED

CHARCOAL CHILLING IRONS.

12 YEARS OF SERVICE.

FIRST-CLASS RECORD.

CAYUTA WHEEL & FOUNDRY CO.,

MOSES LYMAN, Treas'r,

WAVERLY, - - NEW YORK

KNOXVILLE CAR WHEEL CO.

Knoxville, Tenn.,

MANUFACTURE

CHILLED WHEELS FOR CARS,

Engine Trucks & Tenders,

USING STRICTLY

Cold Blast Charcoal Iron,

Made at their celebrated

Carter County Furnaces.

JOEL H. MILLENER,

Office, 220 Main Street, BUFFALO, N. Y.

RAILROAD CROSS-TIES.

OAK AND PINE BRIDGE TIMBER.

Large, Long and Difficult Bills a Specialty.

DELIVERY PORTS:

Lake Erie or by Rail.

ST. JOHN'S OF FLORIDA—Gauge, 4-8½. Miles operated, 15. No. of locomotives, —; passenger cars,—; freight and miscellaneous cars,—.
President, General Superintendent, Chief Engineer, Purchasing Agent and Roadmaster—R. McLaughlin, Jacksonville, Fla.
Auditor—Chas Smith, St. Augustine, Fla.
General Passenger and Freight Agent—F. M. Clark, Tocoi, Fla.
Supt. Motive Power and Machinery—J. M. Owens, St. Augustine, Fla.

ST. JOHNSBURY & LAKE CHAMPLAIN—Gauge, 4-8½. Miles operated, 128. No. of locomotives, 15; passenger cars, 10; freight and miscellaneous cars, 300.
President—Horace Fairbanks, St. Johnsbury, Vt.
Vice President—Franklin Fairbanks, St. Johnsbury, Vt.
Gen'l Superintendent and Purchasing Agent—A. B. Jewett, St. Johnsbury, Vt
Chief Engineer—J. R. Rust. St. Johnsbury, Vt.
Secretary and Treasurer—W. P. Fairbanks, St. Johnsbury, Vt.
Gen'l Passenger, Ticket and Freight Agent—C. H. Sterns, St. Johnsbury, Vt.
Master Mechanic—Geo. E. Howe, St. Johnsbury, Vt.
Roadmaster—Geo. A. Hart, H. W. Varnum, St. Johnsbury, Vt.

ST. JOSEPH VALLEY—Gauge, 3. Miles operated, 10. No. of locomotives, 1; passenger cars, 1; freight and miscellaneous cars, 8.
President—George H. Richards, Buchanan, Mich.
Vice President—R. D. Dix, Berrien Springs, Mich.
General Manager, Superintendent, Freight Agent and Roadmaster—E. T. Chase, Buchanan, Mich.
Chief Engineer—W. W. Graves, Buchanan, Mich.
Secretary, General Passenger, Ticket and Freight Agent - J. H. Matthews, Berrien Springs, Mich.
Treasurer—A. F. Ross, Buchanan, Mich.

ST. JOSEPH & DES MOINES—Gauge, 3. Miles operated, 50. No. of locomotives, 3; passenger cars, 2; combination passenger, baggage and mail cars, 2; freight and miscellaneous cars, 84.
President—W. W. Baldwin, Burlington, Iowa.
Vice President—T. S. Howland, Burlington, Iowa.
General Superintendent—J. F. Barnard, St. Joseph, Mo.
Asst. Superintendent—D. H Winton, St. Joseph, Mo.
Chief Engineer—C. C. Chandler, St. Joseph, Mo.
Treasurer—H. B. Scott, Burlington, Iowa.
Secretary, Asst. Treasurer and Auditor—C. M. Carter, St. Joseph, Mo.
General Passenger and Ticket Agent—A. C. Dawes, St. Joseph, Mo.
General Baggage Agent—M. B. Starring, Chicago.
General Freight Agent—E. J. Swords, St. Joseph, Mo.
Purchasing Agent—Wm. Irving, Chicago.
Fuel Agent—A. B. Barnard, St. Joseph, Mo.
Master Mechanic—F. A. Chase, St. Joseph, Mo.
Foreman of Car Repairs—Thos. Aylesbury, St. Joseph, Mo.
Master Car Painter—C. F. Harral, St. Joseph, Mo.
Roadmaster—Jos. Hayward, St. Joseph, Mo.
Superintendent of Buildings and Bridges—L. H. Morse, St. Joseph, Mo.

ST. LAWRENCE & OTTAWA—Gauge, 4-8½. Miles operated, 59; No. of locomotives, 10; passenger cars, 15; freight and miscellaneous cars, 151.
President—Chas. D. Rose, London, Eng.
Managing Director—Duncan McIntyre, Montreal, Can.
General Superintendent—Archer Baker, Montreal.
Secretary—Thos. A. Welton, London, Eng.
Auditor—R. A. Bennett, Montreal.
Assistant General Passenger Agent—G. W. Hibbard, Montreal.
Assistant General Freight Agent—G. M. Bosworth. Montreal.
Foreman of Locomotive Repairs—C. Dame, Prescott, Can.
Roadmaster—W. Wallace, Prescott, Can.

ST. LOUIS, ALTON & TERRE HAUTE—Gauge, 4-8½, Miles operated, 135. No. of locomotives, 17; passenger cars, 15; freight and miscellaneous cars, 785.
President—Wm Bayard Cutting, New York.
Vice President, General Manager and Treasurer—Geo. W. Parker, St. Louis, Mo.
Superintendent—J. L. Hinckley, Belleville, Ill.
Secretary—E. F. Leonard, St. Louis.
Auditor—H. T. Nash, St. Louis.
General Passenger, Ticket and Freight Agent—B. F. Blue, St. Louis.
Master Mechanic—A. M. de Clercq, East St. Louis, Ill.
Master Car Painter—Fred Fleeschbein, East St. Louis, Ill.
Roadmaster—Henry Mason, Belleville, Ill.

ST. LOUIS & CAIRO—Gauge, 3. Miles operated, 160. No. of locomotives, 22 passenger cars, 14; freight and miscellaneous cars, 860.
President—W. F. Whitehouse, Chicago, Ill.
Vice President—L. M. Johnson, Chicago.
General Superintendent—Chas. Hamilton, St. Louis, Mo.
Secretary—Wm. Ritchie, Chicago.

Auditor—Lewis Enos, St. Louis, Mo.
General Passenger and Freight Agent—Geo. H. Smith, St. Louis, Mo.
Master Mechanic—R. M. Pringle, St. Louis Mo.
Roadmaster—R. Boyle, Sparta, Ill.

ST. LOUIS & SAN FRANCISCO—Gauge, 4-8½. Miles operated, 902. No. of locomotives, 35; passenger cars, 46; freight and miscellaneous cars, 3,949.
President—E. F. Winslow, 15 Broad st., New York.
First Vice President and General Manager—C. W. Rogers, St. Louis, Mo.
Second Vice President—J. D. Fish, New York.
Superintendent of Transportation—D. H. Nichols, Springfield, Mo.
Chief Engineer—Jas Dun, St. Louis.
Division Engineer—J. F. Hinckley, St. Louis.
Secretary and Treasurer—T. W. Lillie, New York.
Auditor—A. Douglas, St. Louis.
General Passenger and Ticket Agent—D. Wishart, St. Louis.
General Freight Agent—G. W. Cale, St. Louis,
Purchasing Agent—A. G. Thompson, St. Louis.
Fuel Agent—M. G Moist, Springfield, Mo.
Master Mechanic—M. Kearney, Springfield, Mo.
Foreman of Locomotive Repairs—J. R. McCabe, Springfield, Mo.
Foreman of Car Repairs—Frank Doyle, Springfield, Mo.
Foreman Car Painters—Isaac Price, Springfield, Mo.
Division Superintendents—A. Veech, St. Louis; W. A. Thome, Springfield, Mo,; J. R. Wentworth, Neodesha, Kas.
General Roadmaster—S. Lyman, Springfield, Mo.
Roadmasters—John Coffey, Rolla, Mo.; J. McCarty, Lebanon, Mo.; H. Tyson, Peirce City, Mo.; J. Moore, Carl Junction, Mo.; J. R. Ward, Rogers, Ark.; Jas. McDonough, Fredonia, Kas.; Wm. Williams, Seneca, Mo.

ST. LOUIS BRIDGE & TUNNEL—Gauge, 4-8½. Miles operated, 3 main track, 25 sidings. No. of locomotives, 18; passenger cars, 8; freight and miscellaneous cars, 3.
President—Julius S. Walsh, St. Louis.
Vice President and General Manager—Wm. Taussig, St. Louis.
General Superintendent—A. W. Dickinson, St. Louis.
Consulting Engineer—C. Shaler Smith, Bridge entrance, St. Louis.
General Freight Agent—W. G. Broughton, St. Louis.
Purchasing Agent—J. E. Williams, Jr., St. Louis.
Master Mechanic—H. M. Smith, St. Louis.
Assistant Secretary—V. W. Fisher, St. Louis.
Auditor—James Hanna, St. Louis.

ST. LOUIS COAL—Gauge, 4-8½. Miles operated, 22. No. of locomotives, 8; passenger cars, 6; freight and miscellaneous cars, 199.
President and General Manager—Andrew C. Bryden, St. Louis.
Assistant General Manager, Purchasing Agent, Secretary and Treasurer—James C. Bryden, St. Louis.
General Superintendent—James Prentice, Carbondale, Ill.
General Passenger, Ticket and Freight Agent—L. B. Cochran, St. Louis.
Auditor—Edward Brown, St. Louis.
Master Mechanic—Thomas Inglis, Carbondale, Ill.
Roadmaster—James Anderson, Carbondale, Ill.

ST. LOUIS, CREVE CŒUR & ST. CHARLES—Gauge, 3. Miles operated, 16. No. of locomotives, 3; passenger cars, 7; freight cars, 6.
President—M. A. Downing, St. Louis.
Vice President and General Manager—F. M. Colburn, St. Louis.
Master Mechanic—E. W. Church, Florissant, Mo,
Secretary and Treasurer—S. H. Cobb, St. Louis.

ST. LOUIS, DES MOINES & NORTHERN—Gauge, 3. Miles operated, 43. No. of locomotives, 3; passenger cars, 12; freight and miscellaneous cars, 85.
President—G. M. Dodge, New York.
Vice President—J. S. Clarkson, Des Moines, Ia.
General Superintendent—C. F. Meek, Des Moines, Ia.
Secretary and Treasurer—F. M. Hubbell, Des Moines, Ia.
General Passenger and Ticket Agent—F. L. Jelley, Des Moines, Ia.
Roadmaster—J. H. Sullivan, Des Moines, Ia.

ST. LOUIS, FORT SCOTT & WICHITA—Gauge, 4-8½. Miles operated, 126. No. of locomotives, 6; passenger cars, 2; freight and miscellaneous cars, 290.
President and General Manager—Francis Tiernan, Ft. Scott, Kan.
General Superintendent and Purchasing Agent—J. W. Miller, Ft. Scott.
Chief Engineer—N. S. Woods, El Dorado, Kan.
Treasurer—W. Chenault, Ft. Scott, Kan.
Auditor—J. H. Dowland, Ft. Scott.
Fuel Agent and Master Mechanic—H. Berger, Ft. Scott.
Foreman Car Repairs—A. A Liddell, Ft. Scott.
Roadmaster—John Gaffney, Toronto, Kan.

ST. LOUIS, HANNIBAL & KEOKUK—Gauge, 4-8½. Miles operated, 86. No. of locomotives, 6; passenger cars, 4; freight and miscellaneous cars, 65.
President General Sup't and Chief Engineer—W. W. Walker, Hannibal, Mo.
Vice President—John F. Ely, Cedar Rapids, Ia.

Secretary—Wm. Bushman, Cedar Rapids.
Treasurer—Wm. Greene, Cedar Rapids.
Auditor—W. H. Ide, Cedar Rapids.
Assistant General Ticket and Freight Agent—B. F. Wilson, Hannibal, Mo.
Purchasing Agent—Geo. Douglas, Hannibal.
Roadmaster—G. P. Browne, Bowling Green, Mo.

ST LOUIS, KEOKUK & NORTHWESTERN (St. Louis & St. Paul Short Line)—Gauge, 4-8½: Miles operated, 186. No. of locomotives, 14; passenger cars, 17; freight and miscellaneous cars, 384.
President—W. W. Baldwin, Burlington, Ia.
Vice President and General Manager—T. J. Potter, Chicago, Ill.
General Superintendent—R. Law, Keokuk, Ia.
Assistant Superintendent—C. M. Levey, Keokuk.
Secretary, Assistant Treasurer and Assist'nt Auditor—Howard Elliott, Keokuk.
General Ticket and Freight Agent—J. H. Best, Jr., Keokuk.
General Baggage Agent—M. B. Starring, Keokuk.
General Purchasing Agent—Wm. Irving, Chicago.
Supt. Motive Power and Machinery—W. H. Bartlett, Keokuk.
Roadmasters—F. E. Sawyer and L. E. Atherton, Keokuk.
Superintendent Bridge and Building Departments—S. F. Clapp, Keokuk.

ST. LOUIS, SALEM & LITTLE ROCK—Gauge, 4-8½. Miles operated, 54. No. of locomotives, 5; passenger cars, 1; freight and miscellaneous cars, 113.
President—A. L. Crawford, New Castle, Pa.
Vice President and Purchasing Agent—H. A. Crawford, St. Louis. Mo.
Superintendent, General Passenger, Ticket and Freight Agent—E. B. Sankey, Salem, Mo.
Secretary and Treasurer—Wm. Brewster, Erie, Pa.
Assistant Secretary and Treasurer—Emerson L. Foote, St. Louis, Mo.
Master Mechanic—Thos. Everson. Steelville, Mo.
Master Car-Builder—John W. Houston, Steelville, Mo.

ST. MARTINS & UPHAM—Gauge, 4-8½. Miles operated, 30. No. of locomotives, 2; passenger cars, 1; freight and miscellaneous cars, 1.
President—Gilbert W. Titus, Bloomfield, N. B.
General Manager and Purchasing Agent—A. E. Killam, St. Martins, N. B.
General Superintendent, Treasurer, Auditor, General Passenger, Ticket, Baggage, Freight and Fuel Agent—F. A. Tingley, St. Martins, N. B.
Secretary—Geo. Barnes, Hampton, N. B.

ST. PAUL & DULUTH—Gauge, 4-8½. Miles operated, 225; No. of locomotives, 37; passenger cars, 16; freight and miscellaneous cars, 995.
President—Jas. Smith, Jr., St. Paul, Minn.
Vice President—W. H. Rhawn, Philadelphia, Pa.
General Superintendent—H. P. Breed, St. Paul, Minn.
Chief Engineer—Henry Swanson, St. Paul, Minn.
Secretary and Treasurer—P. S. Harris, St. Paul.
Auditor—F. W. Davis, St. Paul.
General Passenger Ticket and Freight Agent—E. F. Dodge, St. Paul.
Purchasing Agent—J. H. Callahan, St. Paul.
Fuel Agent—E. D. McDonald, St. Paul.
Master Mechanic—W. McFarland, St. Paul, Minn.
Foremen of Locomotive Repairs—W. P. Robinson, E. McFarland, St. Paul.
Master Car Builder—John Hill, St. Paul.
Roadmaster—M. D. Kelly, St. Paul.

ST. PAUL EASTERN GRAND TRUNK—Gauge, 4-8½. Miles operated, 10. No. of locomotives, 2; passenger cars, 1; freight and miscellaneous cars, 20.
President—Thad. C. Pound, Chippewa Falls, Wis.
General Sup't, Secretary and Purchasing Agent, Dana C. Lamb, Oconto, Wis.
Chief Engineer—Fred Kirchman, Oconto, Wis.
Secretary and Treasurer—Wm. H. Young, Oconto, Wis.
Auditor—Geo. Bever, Oconto, Wis.
Traffic Manager, General Passenger, Ticket, Baggage and Freight Agent—Edw. G. Mullen, Oconto, Wis.

ST. PAUL, MINNEAPOLIS & MANITOBA—Gauge, 4-8½.
President—James J. Hill, St. Paul, Minn.
General Manager—Allen Manvel, St. Paul, Minn.
Assistant General Superintendent—E. B. Wakeman, St. Paul, Minn.
Chief Engineer—Charles C. Smith, St. Paul, Minn.
Assistant Chief Engineer—A. D. Miller, St. Paul, Minn.
Secretary and Treasurer—E. E. Sawyer, St. Paul, Minn.
Auditor—S. S. Breed, St. Paul, Minn.
Traffic Manager—W. S. Alexander, St. Paul, Minn.
Assistant General Passenger Agent—H. C. Davis, St. Paul, Minn.
General Freight Agent—A. S. Mohler, St. Paul, Minn.
Purchasing Agent—S. C. Morrison, St. Paul, Minn.
Fuel Agent—R. D. Bloomfield, St. Paul, Minn.
Master Mechanic—Harvey Middleton, St. Paul, Minn.
Division Superintendents—W. S. Kemp, J. B. Rice, St. Paul, Minn.; A. Guthrie, Crookston, Minn.

RICHARD DUDGEON,

24 Columbia St., New York.

MAKER AND PATENTEE of the **Improved Hydraulic Jacks and Punches,**

DIRECT ACTING STEAM HAMMERS

— AND —

BOILER TUBE EXPANDERS.

Communications by letter will receive prompt attention.

JACKS for Pressing on Car Wheels or Crank Pins **MADE TO ORDER.**

BILLMEYER & SMALL COMPANY.

ESTABLISHED IN 1852. YORK, PENNA.

MANUFACTURERS OF STANDARD & NARROW GAUGE

PASSENGER, PARLOR, EXPRESS, MAIL & BAGGAGE CARS.

FINEST FINISH & EXCELLENT WORKMANSHIP.

FREIGHT CARS
PLANTATION "
CONTRACTORS "
MINING "
HAND "
PUSH "

Export Work a Specialty.

Roadmasters—J. J. Brennan, St. Paul, Minn.; John Malloy, Crookston, Minn.; John Mayer, Delano, Minn.

SACRAMENTO & PLACERVILLE—(See Central Pacific.)

SAGINAW BAY & NORTHWESTERN—(See Michigan Central).

SAGINAW, TUSCOLA & HURON—Gauge, 3. Miles operated, 47. No. of locomotives, 3; passenger cars, 6; freight and miscellaneous cars, 62.
President—W. L. Webber, East Saginaw, Mich.
Vice President—Geo. W. Morley, East Saginaw, Mich.
General Superintendent—C. S. McMillan, East Saginaw, Mich.
Secretary and Treasurer—E. T. Judd, East Saginaw, Mich.
Auditor—G. W. Leclie, East Saginaw, Mich.
Roadmaster—Geo. Ford, Sebewaing, Mich.

SAGINAW VALLEY & ST. LOUIS—Gauge, 4-8½. Miles operated, 35. No. of locomotives, 4; passenger cars, 5; freight and miscellaneous cars, 51.
Managing Director—J. B. Mulliken, Detroit, Mich.
Superintendent—N. W. Merrill, Saginaw City, Mich.
General Freight and Passenger Agent—W. A. Carpenter, Detroit, Mich.
Master Mechanic—Geo. C. Watrous, Ionia, Mich.

SALISBURY—Gauge, 4-8½. Miles operated, 12. No. of locomotives, 1; passenger cars, 1.
President—W. S. Bissell, Pittsburgh, Pa.
General Superintendent—Thos. M. King, Pittsburgh.
Secretary and Treasurer—J. B. Washington, Pittsburgh.

SANBORN, COOPERSTOWN & TURTLE MOUNTAIN—(Under construction).
General Manager and Chief Engineer—C. A. Roberts, Sanborn, Dak.

SANDY RIVER Gauge, 2. Miles operated, 18. No. of locomotives, 3; passenger cars, 4; freight and miscellaneous cars, 30.
President, General Manager and Superintendent—N. B. Beal, Phillips, Me.
Assistant General Superintendent—Fred. N. Beal, Phillips, Me.
Chief Engineer—Frank Lowell, Phillips, Me.
Assistant Chief Engineer—Willard Towle, Phillips, Me.
Secretary—D. M. Bonney, Farmington, Me.
Treasurer, Gen'l Passenger and Ticket Agent—J. E. Thompson, Phillips, Me.
General Baggage Agent—Rand E. Harden, Phillips, Me.
Purchasing Agent—W. F. Fuller, Phillips, Me.
Foreman of Car Repairs—Wm. Dyer, Strong, Me.
Master Car Painter—M. S. Kelley, Phillips, Me.
Roadmaster—Wm. Wagg, Phillips, Me.

SANFORD & INDIAN RIVER—(See South Florida.)

SAN FRANCISCO & NORTH PACIFIC—Gauge, 4-8½. Miles operated. 112. No. of locomotives, 10; passenger cars, 21; freight and miscellaneous cars, 254.
President—Colonel Peter Donahue, San Francisco, Cal.
Vice President and Secretary—Colonel Jas. M. Donahue, San Francisco.
General Manager and Purchasing Agent—Arthur Hughes, San Francisco.
General Superintendent—H. C. Whiting, Petaluma, Cal.
Chief Engineer—F. K. Zook, San Rafael, Cal.
Treasurer—T. I. Bergin, San Francisco.
Auditor—Thos. Johnson, San Francisco.
General Passenger and Ticket Agent—P. J. McGlynn, San Francisco.
General Baggage and Freight Agent—Charles Thorn, Jr., San Francisco.
Master Mechanic and Car Builder—E. Reynolds, Donahue, Cal.
Roadmaster—Patrick Hyde, Santa Rosa, Cal.

SAN PETE VALLEY—Gauge, 3. Miles operated, 30. No. of locomotives, 2; passenger (combination) cars, 2; freight and miscellaneous cars, 56.
President—Sir H. W. Tyler, London, England.
Managing Director—S. Bamberger, Salt Lake City, Utah.
Secretary—F. K. Morris, Salt Lake City, Utah.
Purchasing Agent—J. E. Bamberger, Salt Lake City, Utah.

SARATOGA, MOUNT McGREGOR & LAKE GEORGE—Gauge, 3. Miles operated, 10½. No. of Locomotives, 3; passenger cars, 6; freight and miscellaneous cars, 6.
President—John Kellogg, Amsterdam, N. J.
Vice President—W. J. Arkell, Canajoharie, N. Y.
Manager—Down H. Fonda, Albany, N. Y.
Superintendent and Chief Engineer—John McGee, Saratoga Springs, N. Y.
Secretary and General Passenger and Ticket Agent—A. B. Frey, Saratoga Springs, N. Y.
Treasurer—Norman J. Brumley, Canajoharie, N. Y.
Auditors—A. G. Richmond, Canajoharie, N. Y.

SAVANNAH, FLORIDA & WESTERN—Gauge, 5. Miles operated, 472. No. of locomotives, 48; passenger cars, 52; freight and miscellaneous cars, 684.
President—H. B. Plant, New York.
Vice President—W. S. Chisholm, Savannah, Ga.
General Manager—H. S. Haines, Savannah.
Superintendent—R. G. Fleming, Savannah.
Assistant Superintendent—G. W. Haines, Savannah.
Comptroller—W. B. McKee, Savannah.
Treasurer—Wm. P. Hardee, Savannah.
General Passenger and Freight Agent—James L. Taylor, Savannah.
Purchasing Agent—A. A. Avelihe, Savannah.
Master of Machinery—Geo. M. Riley, Savannah.
Foreman Car Department—E. Giffken, Savannah.
Master Roadway—H. W. Reed, Waycross, Ga.

SAVANNAH, GRIFFIN & NORTH ALABAMA—(See Central Railroad of Georgia).

SCIOTO VALLEY—Gauge, 4-9¼. Miles operated, 131; No. of locomotives, 17; passenger cars, 18; freight and miscellaneous cars, 546.
President—J. B. Hawes, New York.
Vice President—W. W. Franklin, Columbus, O.
Superintendent and Purchasing Agent—Geo. Skinner, Columbus, O.
Assistant Superintendent and Treasurer—J. Robinson, Columbus, O.
Engineer—Julian Griggs, Columbus, O.
Secretary—J. E. Gates, New York.
Auditor—James A. Fanning, Columbus, O.
General Passenger, Ticket, Baggage and Freight Agent—John J. Archer, Columbus, O.
Master Mechanic, Car Builder and Car Painter—R. Bromley, Portsmouth, O.
Roadmaster—T. G. Bothwell, Chillicothe, O.
Bridge Master—J. H. McCoy, Chillicothe, O.

SEABOARD & ROANOKE—Gauge, 4'8½. Miles operated, 80; No. of locomotives, 22; passenger cars, 15; freight and miscellaneous cars, 372.
President and General Superintendent—John M. Robinson, Md.
Superintendent of Transportation—Enoch G. Ghio, Portsmouth, Va.
Chief Engineer—T. J. Moncure, Portsmouth, Va.
Secretary and Treasurer—Wm. W. Chamberlaine, Portsmouth, Va.
Auditor and Purchasing Agent—J. A. Walton, Portsmouth, Va.
General Ticket Agent—J. W. Brown, Portsmouth, Va.
Superintendent Motive Power and Machinery—Milo M. Pendleton, Portsmouth, Va.
Superintendent of Road and Bridges—S. P. Hand, Portsmouth, Va.
Storekeeper—O. D. Ball, Portsmouth, Va.
Foreman of Locomotive Repairs—C. W. Walker, Portsmouth, Va.
Foreman of Car Repairs—D. W. Ballentine, Portsmouth, Va.

SHARPSVILLE—Gauge, 4-8¾. Miles operated, 30. No. of locomotives, 3; passenger cars, 2; freight and miscellaneous cars, 100.
President, Gen'l Manager and Purch'g Agent—Walter Pierce, Sharpsville, Pa.
Vice President and Secretary—Frank Pierce, Sharpsville, Pa.
Assistant General Manager—Wallace Pierce, Sharpsville, Pa.
Treasurer—Charles Agnew, Sharpsville, Pa.
Auditor—T. M. Ford, Sharpsville, Pa.
Master Mechanic—J. H. Logan, Sharpsville, Pa.
Roadmaster—A. D. Palmer, Sharpsville, Pa.

SHELL BEACH—Gauge, 5. Miles operated, 30.; No. of locomotives, 3; passenger cars, 6; freight and miscellaneous cars, 25.
General Manager—M. R. Spellman, New Orleans, La.

SHENANDOAH VALLEY—Gauge, 4-9. Miles operated, 249. No. of locomotives, 32; passenger cars, 30; freight and miscellaneous cars, 819.
President—F. J. Kimball, Philadelphia, Pa.
Vice President—U. L. Boyce, Boyce P. O., Va.
General Superintendent—Joseph H. Sands, Roanoke, Va.
Superintendent—D. W. Flickwir, Roanoke, Va.
Chief Engineer—W. W. Coe, Roanoke, Va.
Secretary—A. J. Hemphill, Philadelphia.
Treasurer—G. R. W. Armes, Philadelphia.
Comptroller—W. G. Macdowell, Philadelphia.
General Passenger Agent—A. Pope, Roanoke, Va.
General Freight Agent—C. P. Hatch, Roanoke, Va.
Purchasing Agent—W. C. DeArmond, Philadelphia, Pa.
Superintendent Motive Power—C. Blackwell, Roanoke, Va.
Supervisors—Thos. Fitzgerald, Shepherdstown, W. Va.; Chas. Morgan, Luray, Va.; Thos. Eagan, Buchanan, Va.

SHENANGO & ALLEGHENY—Gauge, 4-8½. Miles operated, 80. No. of locomotives, 9; passenger cars, 7.
President—A. H. Steele, Titusville, Pa.

E. T. BARNUM WIRE AND IRON WORKS, Detroit, Mich., U. S. A.

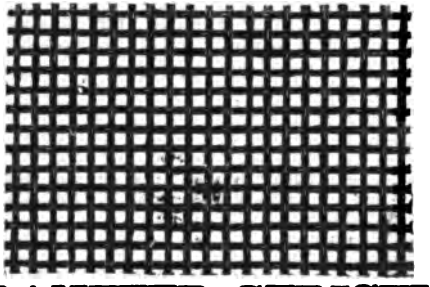
CHICAGO, ILL. WINDSOR, ONT.

MANUFACTURERS OF

Wire Cloth for Locomotive Spark Arresters,

AND ALL OTHER PURPOSES.

We make a Specialty of this work, and Weave our Wire on heavy power looms, and are thus able to make much more even and durable cloth than is produced by many other houses.



We solicit correspondence from Purchasing Agents and are prepared to quote at close figures. Write for estimates. Send for our Catalogue.

ALL WORK GUARANTEED STRICTLY FIRST-CLASS.

Read the Other Side of this Leaf.

CHICAGO BRANCH:
110 Lake St.,
CHICAGO, ILL.

CANADIAN BRANCH:
65 Sandwich St.,
WINDSOR, ONT.

WORKS AND GEN'L OFFICES:
Corner Howard St. and Wabash Ave.,
DETROIT, MICH.

Address all Correspondence to E. T. BARNUM IRON AND WIRE WORKS, Detroit, Mich.

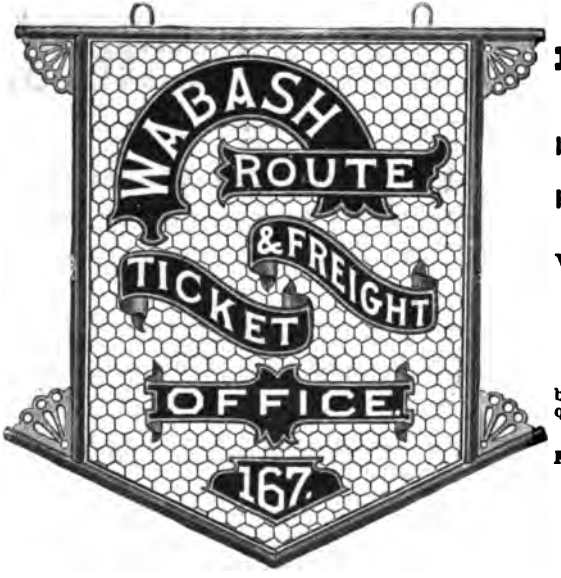
E. T. BARNUM WIRE & IRON WORKS, Detroit, Mich., U. S. A.

ESTABLISHED - - 1863.
INCORPORATED - 1882.

CHICAGO, ILL.] Manufacturers of [WINDSOR, ONT.

WIRE AND IRON WORKS OF EVERY DESCRIPTION.

E. T. BARNUM, Pres. and Gen. Mang'r.
PHILO PARSONS, Vice Pres.
F. H. LEAVENWORTH, Secretary.
C. F. PURDIE, Supt.



WIRE SIGNS AND BANNERS.

We solicit correspondence and specifications for all classes of

Builders' Iron and Wire Work,

and are prepared to make close estimates. We make specialties of

Iron Doors and Shutters,
Wrought Iron Window Guards,
Iron Stairs and Balcony Railing,
Wire Signs for Depots.

Wire Cloth for Spark Arresters, Fire-Proof Lathing, and Car-Building, and all other purposes.

WIRE BANK AND OFFICE RAILING.

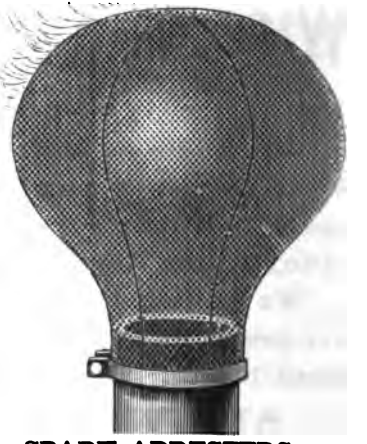
We have fitted up many of the largest and finest banks in the country, and manufacture a superior quality of work.

WE ALSO MAKE

FLOWER POT STANDS, LAWN AND DEPOT SETTEES, FIRE EXTINGUISHERS FOR DEPOTS, ROOF CRESTING, TOWER ORNAMENTS,

Weather Vanes, Wrought Iron Fences, Etc., Etc.

Address all correspondence to



SPARK ARRESTERS.

We issue a special catalogue for each class of work.

SEND FOR ONE.

E. T. BARNUM WIRE & IRON WORKS, Detroit, Mich., U. S. A.

Vice President—T. H. Wells, Youngstown, O.
General Manager and Purchasing Agent—J. T. Blair, Greenville, Pa.
Chief Engineer—Fred. P. James, Mercer, Pa.
Secretary—John H. Beatty, Greenville, Pa.
Treasurer, General Passenger and Ticket Agent—I. D. Stinson, Greenville, Pa.
Auditor—P. E. McCray, Greenville, Pa.
Master Mechanic and Car Builder—E. Richardson, Shenango, Pa.
Roadmaster—G. W. Considine, Fredonia, Pa.

SHEPAUG—Gauge, 4-8½. Miles operated, 32.4. No. of locomotives, 3; passenger cars, 3; freight and miscellaneous cars, 24.
President—H. W. Buel, Litchfield, Conn.
Vice President and Treasurer—H. R. Coit, Litchfield, Conn.
General Superintendent, Passenger and Freight Agent—E. McNeill, Litchfield, Conn.
Secretary—Wm. Deming, Litchfield, Conn.
Master Mechanic—A. J. Brougbel, Litchfield, Conn.
Roadmaster—D. C. Garrison, Roxbury, Conn.

SHIP ISLAND, RIPLEY & KENTUCKY—Gauge, 3. Miles operated, 25. No. of locomotives, 2; passenger cars, 3; freight and miscellaneous cars, 18.
President—W. C. Falkner, Ripley, Miss.
General Manager—R. J. Thurmond, Ripley, Miss.
General Superintendent, Secretary, Treasurer, etc.—C. L. Harris, Ripley, Miss.

SILVER LAKE—Gauge, 4-8½. Miles operated, 7; locomotives, 1; passenger cars, 3; freight cars, 1.
President, Superintendent, Freight and Purchasing Agent—S. L. Chapin, Perry, N. Y.
Ticket Agent—W. J. McEwen, Perry, N. Y.
Secretary—R. H. Steadman, Perry, N. Y.
Treasurer—H. N. Page, Perry, N. Y.

SINALOA & DURANGO Gauge, 4-8½. Miles operated, 38. No. of locomotives, 2; passenger cars, 1; freight and miscellaneous cars, 28.
Vice President and General Manager—Edward P. North, No. 11 Pine st., N. Y.
General Supt. and Purchasing Agent—H. M. Fickinger, Culiacan, Mexico.
Treasurer—S. W. Richardson, 65 Water st., Boston.
Master Mechanic—John E. Bell, Culiacan, Mexico.
Roadmaster—Frank Hawley, Altota, Mexico.

SILVER CITY, DEMING & PACIFIC—Gauge, 3. Miles operated, 47.3. No. of locomotives, 3; passenger cars, 5; freight and miscellaneous cars, 127.
President—Elijah Smith, P. O. Box 3107, Boston, Mass.
Vice President—J. P. Whitney, Boston.
General Superintendent, Ticket, Freight and Purchasing Agent—John W. Smith, Silver City, N. M.
Secretary and Treasurer—Prosper W. Smith, Boston.
Auditor—H. H. Liblee, Silver City, N. M.

SIOUX CITY & PACIFIC—Gauge, 4-8½. Miles operated, 418.54. No. of locomotives, 31; passenger cars, 19; freight and miscellaneous cars, 874.
President—Oliver Ames, North Easton, Mass.
Vice President—D. C. Blair, Belvidere, N. J.
General Manager, Secretary and Purch'g Agent—P. E. Hall, Cedar Rapids, Ia.
General Superintendent—C. M. Lawler, Missouri Valley, Ia.
Superintendent of Transportation—W. G. Brownson, Norfolk, Neb.
Chief Engineer—J. E. Ainsworth, Missouri Valley, Ia.
Treasurer—David P. Kimball, Boston, Mass.
Assistant Treasurer—J. Van Deventer, Cedar Rapids, Ia.
Auditor—Henry V. Ferguson, Cedar Rapids, Ia.
Traffic Auditor—R. C. Hills, Missouri Valley, Ia.
General Passenger Agent—J. R. Buchanan, Missouri Valley, Ia.
General Freight Agent—K. C. Morehouse, Missouri Valley, Ia.
Master Mechanic—S. A. Teal, Missouri Valley, Ia.
Master Car Builder—W. H. Ramseyer, Missouri Valley, Ia.
Foreman Car Painters—Henry H. Hendricks, Missouri Valley, Ia.
Superintendent Track and Buildings—J. S. Wattles, Missouri Valley, Ia.
Road Supervisors—M. Johnson, Missouri Valley, Ia.; P. Stafford, Norfolk, Neb.; M. Stafford, O'Neill, Neb.

SKANEATELES—Gauge, 4-8¼. Miles operated, 5; No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 2.
President—John E. Waller, Skaneateles, N. Y.
Vice President—H. C. Sherman, Skaneateles, N. Y.
General Supt. and Purchasing Agent—John McNamara, Skaneatles, N. Y.
Secretary—George Barrow, Skaneateles, N. Y.
Foreman of Repairs—M. Fennell, Skaneateles, N. Y.

SODUS BAY & SOUTHERN—Gauge, 4-8½. Miles operated, 33.6. No. of locomotives, 4; passenger cars, 4; freight and miscellaneous cars, 36.
President—S. J. Macy, Rochester, N. Y.
Vice President—E. H. Harriman, 17 Wall st., New York.

General Manager—Geo. H. Stearns, Sodus Point.
Secretary—W. H. Averill, Rochester, N. Y.
Treasurer—S. B. Stuart, Sodus Point, N. Y.
Auditor, General Passenger, Ticket and Baggage Agent—Frank Youngs, Sodus Point, N. Y.
Master Mechanic—William Deal, Sodus Point, N. Y.
Master Car Builder—Chas. H. Hill, Sodus Point, N. Y.
Roadmaster—Thomas Needham, Stanley, N. Y.

SOMERSET—Gauge, 4-8½. Miles operated, 25. No. of locomotives, 3; passenger cars, 5; freight and miscellaneous cars, 21.
President—John Ayer, Oakland, Me.
General Superintendent, Ticket, Baggage, Freight, Purchasing Agent and Roadmaster—W. M. Ayer, Oakland, Me.
Secretary—Edward Rowe, Norridgewock, Me.
Treasurer—A. R. Small, Oakland, Me.
Foreman of Locomotive Repairs—Chas. Crowell, North Anson, Me.
Foreman of Car Repairs—Samuel P. Mosher, Oakland, Me.
Master Car Painter—J. B. Redmond, Oakland, Me.

SONOMA VALLEY—Gauge, 3. Miles operated, 21½. No. of locomotives, 3; passenger cars, 6; freight and miscellaneous cars, 28.
President—Peter Donahue, San Francisco, Cal.
Vice President and Secretary—James M. Donahue, San Francisco.
General Manager—Arthur Hughes, San Francisco.
General Superintendent—H. C. Whiting, Petaluma, Cal.
Assistant Superintendent—J. T. Peters, Sonoma, Cal.
Auditor—Thos. W. Johnston, San Francisco.
General Freight and Baggage Agent—Chas. Thorn, Jr., San Francisco.
General Passenger and Ticket Agent—P. J. McGlynn, San Francisco.
Master Mechanic—E. Reynolds, Donahue, Cal.
Assistant Master Mechanic—Samuel Lewis, Sonoma, Cal.

SONORA—Gauge, 4-8½. Miles operated, 265.
Assistant General Manager—J. H. Scott, Guaymas, Mex.
General Freight and Passenger Agent—W. D. Ripley, Guaymas, Mex.
Assistant Auditor—Jas. Stevenson, Guaymas, Mex.
(Other officers same as Atchison, Topeka & Santa Fe).

SOUTH CAROLINA—Gauge, 5. Miles operated, 246. No. of locomotives, 46; passenger cars, 40; freight and miscellaneous cars, 822.
President—H. P. Talmadge, 68 William st., New York.
Vice President—I. J. Higginson, 24 Pine st., New York.
General Manager—John B. Peck, Charleston, S. C.
Chief Engineer—A. D. Caradene, Charleston, S. C.
Secretary—W. T. Minor, 68 William st., New York.
Treasurer—Gaston Hardy, Charleston, S. C.
Auditor—L. C. Hendricks, Charleston, S. C.
General Passenger and Ticket Agent—D. C. Allen, Charleston, S. C.
General Baggage Agent—C. N. Wells, Charleston, S. C.
General Freight and Purchasing Agent—S. B. Pickens, Charleston, S. C.
Superintendent Motive Power and Machinery—P. J. Cochrane, Charleston.
Master Car Builder—G. H. Gramling, Charleston, S. C.
Master of Transportation—J. H. Averill, Charleston. S. C.
Roadmaster—Jas. Trumble, Kingville, S. C.

SOUTHEASTERN—Gauge, 4-8½. Miles operated, 218½. No. of locomotives. 30; passenger cars, 36; freight and miscellaneous cars, 842.
Trustees—Duncan McIntyre, Montreal, Que.; Wm. Farwell, Sherbrooke, Que.; Hon. T. P. Redfield, Montpelier, Vt.
General Manager—T. A. MacKinnon, Montreal, Que.
Asst. Superintendent—H. Macdiarmid, Farnham, Que.
Treasurer—A. B. Chaffee, Montreal.
Auditor—P. O. Ryan, Montreal.
Acting General Freight Agent—W. H. Wardwell, Montreal.
Wood Agent—A. F. Robinson, Waterloo, Que
Mechanical Superintendent—A. G. Eastman, Farnham, Que.
Foreman of Locomotive Repairs—Fred. Rothwell, Farnham, Que.
Foreman of Car Repairs—Henry Imphey, Farnham, Que.
Foreman Car Painters—C. E. Fetch, Farnham, Que.
General Roadmaster—Gavin Shanks, Sutton, Can.
Division Roadmasters—Wm. Moe, Farnham, Que.; Wm. Craig, Farnham, Que.; Wm. Houston, Farnham, Que.

SOUTH FLORIDA—Gauge, 3. Miles operated, 115. No. of locomotives, 15; passenger cars, 13; freight and miscellaneous cars, 175.
President—James E. Ingraham, Sanford, Fla.
Vice President—R. M. Pulsifer, Boston, Mass.
General Superintendent and Purchasing Agent—B. R. Swoope, Sanford, Fla.
Chief Engineer—H. S Haines, Savannah, Ga.
Engineer Maintenance of Way and Fuel Agent—Louis McLain, Sanford, Fla.
Secretary, General Passenger, Ticket and Freight Agent—F. H. Rand, Sanford, Fla.
Treasurer—C. C. Haskell, Sanford, Fla.

Auditor—Wilber McCoy, Sanford, Fla.
Superintendent Motive Power and Machinery—R. Derby, Sanford, Fla.
Master Car Builder—A. D. Stentiford, Sanford, Fla.
Roadmasters—J. B. Halbert, Maitland, Fla.; W. S. Walker, Tampa, Fla.

SOUTH PACIFIC COAST—Gauge, 3. Miles operated, 80; No. of locomotives, 16; passenger cars, 70; freight and miscellaneous cars, 377.
President—A. E. Davis, San Francisco, Cal.
General Superintendent—L. Fillmore, San Francisco.
Secretary and Auditor—Geo. H. Waggoner, Newark, Cal.
Treasurer—A. E. Davis, San Francisco.
General Passenger, Ticket, Baggage and Freight Agent—R. M. Garratt, San Francisco.
Master Mechanic and Car Builder—D. E. Arnold, Newark, Cal.
Roadmaster—Wm. P. Drum, Alameda, Cal.

SOUTHERN CENTRAL—Gauge, 4-8½. Miles operated, 155. No. of locomotives, 22; passenger cars, 13; freight and miscellaneous cars, 420.
President—Hon. T. C. Platt, New York.
Vice President—Hon. C. N. Ross, Auburn, N. Y.
Managing Director—E. P. Wilber, Mauch Chunk, Pa.
General Traffic Manager—John Taylor, Mauch Chunk, Pa.
General Superintendent and Purchasing Agent—Jas. G. Knapp, Auburn, N.Y.
Chief Engineer—E. F. Swart, Auburn, N. Y.
Secretary—Gen. John N. Knapp, Auburn, N. Y.
Treasurer—C. L. Rich, Auburn, N. Y.
Acting General Passenger, Ticket and Freight Agent—H. L. Rich, Auburn.
General Baggage Agent—Peter Mee, Auburn, N. Y.
Acting Master Mechanic—John White, Auburn, N. Y.
Master Car Builder—H. Mooney, Auburn, N. Y.
Master Car Painter—John Coonan, Auburn, N. Y.
Roadmaster—E. R. Mills, Auburn, N. Y.

SOUTHERN KANSAS (formerly Kansas City, Lawrence & Southern Kansas)—Gauge, 4-8½. Miles operated, 552. No. of locomotives, 38; passenger cars, 17; freight and miscellaneous cars, 800.
President—W. B. Strong, Boston, Mass.
Vice President and Gen'l Manager—A. E. Touzalin, Boston and Topeka, Kas.
Superintendent—J. L. Barnes, Lawrence, Kas.
Chief Engineer—H. L. Marvin, Lawrence, Kas.
Secretary—E. Wilder, Topeka, Kas.
Treasurer—G. L. Goodwin, Boston.
General Auditor—John P. Whitehead, Boston.
Assistant Auditor—H. C. Whitehead, Lawrence, Kas.
Traffic Manager—J. F. Goddard, Topeka, Kas.
General Passenger, Ticket and Freight Agent—S. B. Hynes, Lawrence, Kas.
Purchasing Agent—G. Hargreaves, Topeka, Kas.
Fuel Agent—W. W. Allen, Topeka, Kas.
Master Mechanic—T. D. Volk, Ottawa, Kas.
Roadmaster—J. D. Hildebrand, Lawrence, Kas.

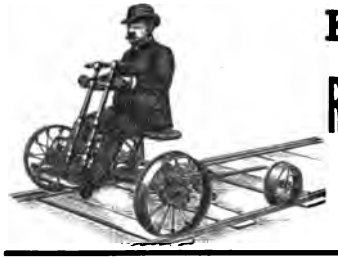
SOUTHERN MARYLAND—Gauge, 4-8½. Miles operated, 20. No of locomotives, 1; cars, 20.
President—John Van Riswick, Washington, D. C.
Vice President—J. H. Linville, Philadelphia, Pa.
Treasurer—Frank Hume, Washington, D. C.
Chief Engineer—James L. Meigs, 64 Equitable Building, Boston, Mass.
Secretary—T. A. Lambert, Brandywine, Md.
Superintendent—W. W. Scott, Washington, D. C.
Assistant Superintendent—J. B. Ridgeway, Brandywine, Md.
Master Mechanic—C. R. Jovoe, Brandywine, Md.
Roadmaster—James Johnson, Brandywine, Md.

SOUTHERN PACIFIC (See Central Pacific and Leased Lines.)

SOUTHWESTERN R. OF KENTUCKY—Gauge, 5. Miles operated, 5. No. of locomotives, 1; passenger cars, 1; freight and miscellaneous cars, 1.
President—T. C. Bell, Harrodsburg, Ky.
Vice President—D. J. Curry, Harrodsburg, Ky.
General Manager—M. Tabler, Harrodsburg, Ky.
Secretary—C. E. Williams, Harrodsburg, Ky.
Treasurer—A. B. Bonta, Harrodsburg, Ky.
General Passenger and Freight Agent—J. C. Hove, Harrodsburg, Ky.

SPARTANBURG, UNION & COLUMBIA—(See Columbia & Greenville).

SPRINGVILLE & SARDINIA—Gauge, 3. Miles operated, 12. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 6.
President, Gen'l Manager and Purchasing Agent—B. Chaffee, Springville, N.Y.
Vice President—James Hopkins, Sardinia, N. Y.
Secretary—L. M. Cummings, Springville, N. Y.
Treasurer—C. J. Sputtleworth, Springville, N. Y.
Auditor—W. W. French, Springville, N. Y.



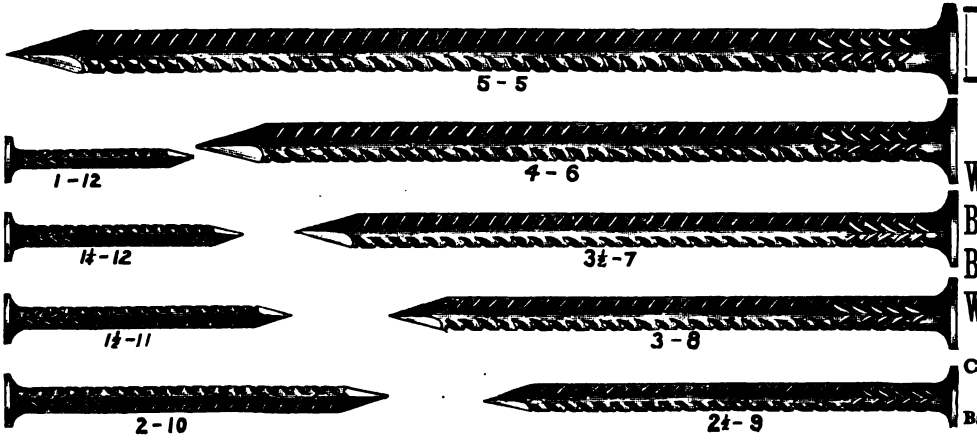
KALAMAZOO R. R. VELOCIPEDE CO.,

MANUFACTURERS OF

R. R. Velocipedes and Improved Hand Cars,

KALAMAZOO, MICH.

The most durable and Speedy Cars in market.
Send for illustrated circular, testimonials and prices



THE H-P NAIL Co.

CLEVELAND, OHIO.

Manufacturers of all kinds.

Wire Nails, Barbed Car-Roofing Nails,
Barbed Car Siding Nails,
Barbed and Smooth Car Flooring Nails,
Wire Nails for Platforms at Depots.

FOR PASSENGER CARS:

Cast Steel Wire Brads and Finishing Nails,
Barbed Nails for Sheet Iron Roofing.

Barbed and Smooth Wire Nails for every purpose.

STATE LINE & SULLIVAN—Gauge, 4-8½. Miles operated, 30. No. of locomotives, 3; passenger cars, 4; freight and miscellaneous cars, 11.
President—J. Raymond Claghorn, Philadelphia, Pa.
General Manager and Purchasing Agent—I. O. Blight, Towanda, Pa.
Secretary—O. A. Baldwin, Towanda, Pa.
Treasurer—Henry C. Davis, Philadelphia, Pa.
Auditor—N. N. Betts, Towanda, Pa.
Foreman of Locomotive Repairs—John T. Line, Towanda, Pa.
Roadmaster—Theo. Ackley, Towanda, Pa.

STATEN ISLAND—Gauge, 4-8½. Miles operated, 13. No. of locomotives, 4; passenger cars, 11; freight and miscellaneous cars, 7.
President—Erastus Wyman, New York.
General Superintendent—J. W. Wilbur, Clifton, Staten Island, N. Y.

STERLING MOUNTAIN—Gauge, 4-8½. Miles operated, 7.6. No. of locomotives, 2; passenger cars, 1; freight and miscellaneous cars, 144.
President, General Manager, Purchasing Agent and Auditor—A. W. Humphreys, 42 Pine street, New York.
General Superintendent, Chief Engineer, General Passenger, Ticket and Freight Agent—J. C. Messimer, Sterlington, Rockland county, N. Y.

STOCKTON & AMADOR—Gauge, 3. Miles operated, 30.
President—E. G. Holden, San Francisco, Cal.
Vice President—F. T. Baldwin, Stockton, Cal.
Chief Engineer—G. C. Holman, Stockton, Cal.
Secretary—Dr. R. K. Reid, Stockton, Cal.
Treasurer—R. N. Tully, Stockton, Cal.

STONY CLOVE & CATSKILL MOUNTAIN—Gauge, 3. Miles operated, 14 3-10. No. of locomotives, 2; passenger cars, 5; freight and miscellaneous cars, 11.
President and Purchasing Agent—Samuel D. Coykendall, Rondout, N. Y.
Vice President, General Superintendent, Passenger and Freight Agent—Geo. Coykendall, Rondout, N. Y.
Secretary and Treasurer—John C. Romeyn, Rondout.
Auditor—Oscar L. Eastman, Rondout, N. Y.

STONY CREEK—Gauge, 4-8½. Miles operated, 10½.
President—James Boyd, Norristown, Pa.
Superintendent and Engineer—Geo. B. Boggs, Norristown, Pa.
Secretary, Treasurer, General Passenger, Ticket and Purchasing Agent—Howard Boyd, Norristown, Pa.
Auditor—F. C. Boggs, Norristown, Pa.
Roadmaster—Joseph Kohl, Norristown, Pa.

STRASBURG—Gauge, 4-8½. Miles operated, 4½. No. of locomotives, 1; passenger cars, 1; freight cars, 1.
Owners of Road—T. and M. Baumgardner.
Lessee—I. Phenegar, Strasburg, Pa.

SYRACUSE, GENEVA & CORNING—(See Fall Brook Coal Co.)

TALBOTTON—Gauge, 5. Miles operated, 7. 1 locomotive; 1 passenger car.
President—S. W. Thornton, Talbotton, Ga.
General Sup't, Secretary and Treasurer—W. H. Martin, Talbotton, Ga.
General Passenger and Freight Agent—J. H. Dennis, Talbotton, Ga.

TENNESSEE COAL & IRON—Gauge, 5. Miles operated, 28. No. of locomotives, 8; passenger cars, 4; freight, 200.
President—Jas. C. Warner, Nashville, Tenn.
General Manager—A. M. Shook, Tracy City, Tenn.

TENNESSEE & SEQUATCHEE VALLEY—Gauge, 3. Miles operated, 12. No. of locomotives, 1; passenger cars, 1; freight and miscellaneous cars, 22.
President and General Manager—Charles Clinton, Spring City, Tenn.
Vice President—E. L. Mehner, Cincinnati, O.
Secretary—E. D. Albro, Cincinnati.
Treasurer and Purchasing Agent—P. V. Mooney, Spring City, Tenn.
Supt. Motive Power and Machinery—Chas. E. Sampson, Spring City, Tenn.
Foreman of Car Repairs—Seymour W. Robinson, Spring City, Tenn.
Roadmaster—George W. Mitchell, Spring City, Tenn.

TERRE HAUTE & INDIANAPOLIS (VANDALIA LINE)—Gauge, 4-9. Miles operated, 396. No. of locomotives, 110; passenger cars, 42; freight and miscellaneous cars, 4,228.
President—W. R. McKeen, Terre Haute, Ind.
General Superintendent—Joseph Hill, St. Louis, Mo.
Assistant Engineer—A. J. Gibbons, Indianapolis, Ind.
Secretary—G. E. Farrington, Terre Haute, Ind.
Treasurer—J. W. Cruft, Terre Haute, Ind.
Auditor—W. S. Roney, Terre Haute, Ind.
General Passenger Agent—E. A. Ford, Pittsburgh, Pa.
Assistant General Passenger Agent—J. M. Chesbrough, St. Louis, Mo.
General Baggage Agent—R. R. Bentley, Pittsburgh.

General Freight Agent—H. W. Hibbard, St. Louis, Mo.
Purchasing Agent—C. R. Peddle, Terre Haute, Ind.
Supt. Motive Power and Machinery—G. H. Prescott, Terre Haute, Ind.
Division Master Mechanics—C. Idler, Indianapolis, Ind.; C. Butler, Effingham, Ill.; C. A. Sanborn, East St. Louis, Ill.
Master Car Builder—E. D. Carter, Terre Haute, Ind.
Master of Transportation—N. K. Elliott, Terre Haute, Ind.
Roadmasters—M. Reedy, Effingham, Ill.; John McMahon, Greencastle, Ind.; J. S. Brothers, Crawfordsville, Ind.

TERRE HAUTE & SOUTHEASTERN—Gauge, 4-8½. Miles operated, 42.75. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 142.
President—Wm. M. Tuell, Terre Haute, Ind.
General Superintendent and Purchasing Agent—Geo. Atherton, Terre Haute.
Secretary—B. V. Marshall, Terre Haute, Ind.
Treasurer—J. S. Beach, Terre Haute, Ind.
Audito and General Ticket Agent—Jas. Tarrence, Terre Haute, Ind.
Roadmaster—James Murtaugh, Terre Haute, Md.

TEXAS & ST. LOUIS—Gauge, 3, Miles operated, 737. No. of locomotives, 66; passenger cars, 44; freight and miscellaneous cars, 1,338.
President—J. W. Paramore, St. Louis, Mo.
Receiver and General Manager—W. R. Woodard, St. Louis, Mo.
Chief Engineer—C. F. Stephens, St. Louis, Mo.
Treasurer—L. B. Fish, St. Louis.
Auditor—E. F. Walker, St. Louis.
Traffic Manager—Geo. W. Lilley, St. Louis.
Master of Transportation—Harry Flanders, Tyler, Tex.
Purchasing Agent—F. W. Paramore, St. Louis.
Superintendent of Motive Power—G. W. Prescott, St. Louis.
Superintendents—A. E. Buchanan, Pine Bluff, Ark; A. L. Horner, Tyler, Tex.

TEXAS TRUNK—Gauge, 4-8½. Miles operated, 51, and still building; No. of locomotives, 3; passenger cars, 2; freight and miscellaneous cars, 30.
President—Sam'l J. Adams, Dallas, Tex.
Vice President—J. W. White, Nashua, N. H.
General Superintendent—Hugh R. Irvine, Dallas, Tex.
Secretary—John R. White, Dallas, Tex.
Treasurer—A. Davis, Dallas, Tex.
Auditor, General Passenger, Ticket and Freight Agent—W. A. Nason, Dallas.
Purchasing and Fuel Agent—Hugh R. Irvine, Dallas, Tex.
Roadmaster—P. Hennessy, Dallas, Tex.

TEXAS WESTERN—Gauge, 3. Miles operated, 54. No. of locomotives, 2; passenger cars, 2; freight cars, 42.
President—F. D. Grant, 34 New street, New York.
Vice President—S. H. McIlhany, Houston, Tex.
General Manager—E. L. Heriot, Houston, Tex.
Secretary—J. G. Tracy, Houston, Tex.
Treasurer—Jesse R. Grant, 34 New street, New York.
General Passenger, Ticket and Freight Agent—T. P. Nichols, Houston, Tex.
Master Mechanic—F. F. Glispin, Houston, Tex.
Master Car Builder—John Vogel, Houston, Tex.

TIOGA—Gauge, 4-8½. Miles operated, 70. No. locomotives, 18; passenger cars, 8; freight and miscellaneous cars, 1,008.
President—Hon. H. J. Jewett, New York, N. Y.
Vice President—J. C. Guthrie, Elmira, N. Y.
Superintendent and Chief Engineer—Raymond DuPuy, Blossburg, Pa.
Assistant Engineer—Pearce Kintzing, Blossburg, Pa.
General Passenger and Freight Agent—C. C. Drake, Elmira, N. Y.
Treasurer—D. S. Drake, Elmira, N. Y.
Master Mechanic—P. Bonney, Blossburg, Pa.
Master Car Builder—D. H. Stratton, Blossburg, Pa.
Roadmasters—Edward Gavigan, Blossburg, Pa.

TIONESTA VALLEY—Gauge, 3. Miles operated, 15; No. of locomotives, 2; passenger cars, 2; Freight and miscellaneous cars, 73.
President—Walter Horton, Sheffield, Pa.
Vice President—Webb Horton, Middletown, N. Y.
General Manager—Isaac Horton, Sheffield, Pa.
General Superintendent—Geo Dickinson, Sheffield, Pa.
Secretary—Jerry Crary, Sheffield, Pa.
Treasurer—Chas. Sigel, Sheffield, Pa.
Auditor—A. H. Bailey, Sheffield, Pa.
General Passenger Agent—C. W. Radeker, Sheffield, Pa.
General Freight Agent—Geo. Horton, Sheffield, Pa.
Purchasing Agent—J. H. Horton, Sheffield, Pa.

TOLEDO & INDIANAPOLIS—Gauge, 4-8½. Miles operated, 44. No. of locomotives, 3; passenger cars, 2; freight and miscellaneous cars, 104.
Receiver—David Robinson, Jr., Toledo.
Superintendent—M. J. Clark, Toledo, O.
Auditor, General Passenger and Freight Agent—J. M. O'Boyle, Toledo, O.

TOLEDO & SOUTH HAVEN—Gauge, 3. Miles operated, 16. No. of locomotives, 3; passenger cars, 3; freight and miscellaneous cars, 13.
President—F. B. Adams, Lawton, Mich.
Superintendent—John Ihling, Lawton, Mich.
Chief Engineer—J. S. Cross, Bangor, Mich.
Secretary—Henry Ford, Lawton, Mich.
Treasurer—Edwin Martin, Lawton, Mich.

TOLEDO, ANN ARBOR & GRAND TRUNK—Gauge, 4-8½. Miles operated, 63. No. of locomotives, 10; passenger cars, 9; freight and miscellaneous cars, 197.
President and General Manager—James M. Ashley, Toledo, O.
Superintendent—H. W. Ashley, Toledo, O.
Secretary—C. F. Cook, Toledo, O.
Treasurer—D. M. Munjo, 59 Liberty st., New York.
Auditor—B. F. Jervis, Toledo, O.
General Passenger and Freight Agent—W. H. Bennett, Toledo, O.
Master Mechanic—C. C. Dodge, Toledo, O.
Roadmaster—Henry Smith, East Milan P. O., Mich.

TOLEDO, CINCINNATI & ST. LOUIS—Gauge, 3; Miles operated, 732. No. of locomotives, 46; passenger cars 35; freight and miscellaneous cars, 2,157.
President—E. B. Phillips, Boston, Mass.
Vice President—Willard White, Boston.
Receiver—W. J. Craig, Toledo, O.
General Superintendent—E. P. Murray, Toledo.
Secretary and Treasurer—Herbert Steward, Boston.
Auditor—C. S. Anthony, Toledo.
General Passenger, Ticket, Baggage and Freight Agent—Geo. A. Sanderson, Toledo.
Purchasing Agent—F. W. Stewart, Toledo.
Supt. Motive Power and Machinery—L. W. James, Delphos, O.
Division Master Mechanics—W. H. Anderson, Dayton, O.; P. H. Murphy, Charleston, Ill.
Master Car Builder—J. S. Weirs, Delphos, O.
Division Superintendents—Frank F. Allen, Charleston, Ill.; W. H. Vandegrift, Delphos, O.; W. W. Cummings, Dayton, O.; C. A. Ball, Cincinnati, O.; C. C. Clark, Ironton, O.

TONAWANDA VALLEY & CUBA—Gauge, 3. Miles operated, 60. No. of locomotives, 5; passenger cars, 7; freight and miscellaneous cars, 50.
President—G. R. Taylor, Bradford, Pa.
Vice President—G. R. Blanchard, New York, N. Y.
General Manager and Purchasing Agent—B. C. Williams, Bradford, Pa.
Secretary—John E. Ransom, Buffalo, N. Y.
Treasurer—B. W. Spencer, New York, N. Y.
Auditor—A. J. McDowell, New York, N. Y.
General Passenger and Freight Agent—John C. McKenna, Bradford, Pa.
Master Mechanic—John Delaney, Bradford, Pa.
Master of Transportation - C. D. Williams, Attica, N. Y.
Roadmaster—John Torpy, Attica, N. Y.

TORONTO, GREY & BRUCE—(See Ontario & Quebec).

TROY & BOSTON—Gauge, 4-½. Miles operated, 54. No. of locomotives, 21, passenger and baggage cars, 20; freight cars, 525.
President—Daniel Robinson, Troy, N. Y.
Vice President—S. B. Sanford, Troy, N. Y.
General Superintendent and Freight Agent—Jos. Crandell, Troy, N. Y.
Secretary—S. M. Vail, Troy, N. Y.
Treasurer—J. Edward Merrill, Troy, N. Y.
Auditor—C. H. Hubbel, Troy, N. Y.
General Passenger and Ticket Agent—Chas. A. Nimmo, Troy, N. Y.
Master Mechanic—Zera B. Davis, Troy, N. Y.
Master Car Builder—Robert V. Coon, Troy, N. Y.
Roadmaster—Samuel L. Robinson, Troy, N. Y.

TUCKERTON—Gauge, 4-9. Miles operated, 31. No. of locomotives, 2; passenger cars, 4; freight and miscellaneous cars, 24.
President—A. R. Pharo, Tuckerton, N. J.
Vice President—Rutherford Stuyvesant, New York.
General Superintendent—J. J. Pharo, Tuckerton, N. J.
Secretary—T. T. Price, Tuckerton, N. J.
Treasurer—Richard Ashhurst, Philadelphia, Pa.
Auditor—Samuel Ashhurst, Philadelphia Pa.
General Passenger and Ticket Agent—H. N. Gilson, Tuckerton, N. J.

TUSKEGEE—Gauge, 3. Miles operated, 5; locomotives, 2; passenger cars, 2; freight cars, 5.
Treasurer and Agent—W. H. Wright, Tuskegee, Ala.

ULSTER & DELAWARE—Gauge, 4-8½. Miles operated, 74; No. of locomotives, 10; passenger cars, 19; freight and miscellaneous cars, 241.

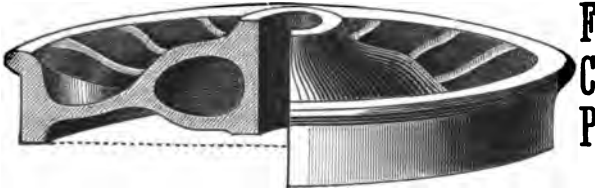
RAMPO WHEEL AND FOUNDRY COMPANY,

MANUFACTURERS OF

Steel-Tired and

CHILLED IRON

WHEELS



For Drawing Room and Sleeping Coaches, Locomotives, Tenders, Passenger and Freight Cars.

ALSO

THE CONGDON BRAKE SHOE.

W. W. SNOW Sup't and Gen'l Manager,

RAMAPO, N. Y., - - - Rockland, Co.

RAMAPO IRON WORKS,

MANUFACTURERS OF THE

LORENZ AND STUB SWITCHES, AND SWITCH STANDS.

KEYED, RIVETED, BOLTED AND SPRING

FROGS,

DOUBLE AND SINGLE RAIL CROSSINGS,

(MADE REVERSIBLE AND INTERCHANGEABLE IF DESIRED).

Light or Heavy Castings, & General Railway Track Equipments.

Estimates and information cheerfully furnished. Telegraph station: RAMAPO, or SUFFERN, N. Y.

Post Office address: HILLBURN, Rockland Co., N. Y.

President—Hon. Thos. Cornell, Rondout, N. Y.
Vice President—A. S. Staples, Rondout, N. Y.
General Superintendent—J. H. Jones, Rondout, N. Y.
Superintendent of Transportation—A. E. Benson, Rondout, N. Y.
Secretary and Treasurer—A. Benson, Rondout, N. Y.
Auditor—R. B. Jones, Rondout, N. Y.
General Passenger and Freight Agent—F. B. Hibbard, Rondout, N. Y.
Master Mechanic—Joseph Rush, Rondout, N. Y.
Master Car Builder—J. H. Decker, Rondout, N. Y.
Foreman of Car Repairs—James Cameron, Rondout, N. Y.
Master Car Painter—Chauncey Hotaling, Rondout, N. Y.
Roadmaster—J. H. Decker, Rondout, N. Y.

UNION PACIFIC—Gauge, 4-8½; miles operated, 4,530. No. of locomotives, 558; passenger cars, 455; freight and miscellaneous cars, 10,367.
President—Sidney Dillon, New York.
Vice President—Elisha Atkins, Boston.
General Manager—S. H. H. Clark, Omaha, Neb.
Assistant General Manager—Thomas L. Kimball, Omaha.
Chief Engineer—J. Blickensderfer, Omaha.
Secretary and Treasurer—Henry McFarland, Boston.
Auditor—E. Young, Omaha.
General Passenger Agent—J. W. Morse, Omaha.
General Ticket Agent—C. S. Stebbins, Omaha.
General Baggage Agent—A. Traynor, Council Bluffs, Ia.
General Freight Agent—P. P. Shelby, Omaha.
Purchasing Agent—M. H. Goble, Omaha.
Superintendent Coal Department—D. O. Clark, Omaha.
Superintendent Motive Power and Car Departments—I. H. Congdon, Omaha.
Assistant Sup't Motive Power and Car Departments—John Wilson, Omaha.
General Superintendents—P. J. Nicholls, Omaha; E. Dickinson, Laramie, Wyom.; S. T. Smith, Kansas City, Mo.; A. A. Egbert, Denver, Col.; W. B. Doddridge, Ogden, Utah.
Master Car Painters—B. Stanbury, Omaha; J. C. Stout, Armstrong, Kan.
Superintendent Bridges and Buildings—E. Lane, Omaha.
Division Superintendents—C. B. Havens, Eastern Div., Omaha; W. A. Deuel, Lodge Pole and Julesburg Districts, Cheyenne, Wyo.; C. E. Wurtele, Western Div., Evanston, Wyo.; R. Blickensderfer, Oregon Short Line, Pocatello, Idaho; W. P. P. St. Clair, Utah & Northern Div., Eagle Rock, Idaho; J. O. Brinkerhoff, Kaw Valley Div., Kansas City, Mo.; W. T. Kelley, Kansas Central Div., Leavenworth, Kan.; O. H. Dorrance, Smoky Hill & Denver Divs., Wallace, Kan.; P. Tonhey, Colorado Central and Denver Pacific Div., Denver, Col.; D. K. Smith, Denver & South Park Div., Como, Col.
Division Master Mechanics—R. McConnell, Omaha, Neb.; J. H. McConnell, North Platte, Neb.; R. McDougall, Cheyenne, Wyo.; T. E. Lewis, Laramie, Wyo.; T. A. Davies, Rawlins, Wyo.; G. F. Chapman, Evanston, Wyo.; F. Rearden, Pocatello, Idaho; F. Mertsheimer, Denver, Col.; J. O. Chapman, Armstrong, Kan.
Assistant Division Master Mechanics—James Mackenzie, Armstrong, Kas.; J. B. Dailey, Ellis, Kan.; A. Goldthwaite, Leavenworth, Kan.; S. Otis, Denver, Col.; John Muckley, Montpelier, Idaho.; W. J. Hemphill, Eagle Rock, Idaho.
Roadmasters—L. M. Jenney, Omaha; M. Horn, Grand Island, Neb.; O. McGregor, Sidney, Neb.; W. H. Dudley, North Platte, Neb.; F. D. Delaney, Laramie, Wyo.; E. Brown, Rawlins, Wyo.; Wm. Leroy, Echo, Utah; G. O'Neill, Evanston, Wyo.; A. F. Spoor, Sterling, Col.; George Bennett, Lincoln, Neb.; J. J. Riley, Lost Creek, Neb.; H. Williams, St. Joseph, Mo.; William Toombs, Logan, Utah; Geo. Paine, Blackfoot, Idaho; A. Hassett, Montpelier, Wyo.; J. Tudhope, Lawrence, Kan.; A. L. McLeod, Abilene, Kan.; P. McMahon, Ellis, Kan.; E. S. Capron, Grainfield, Kan.; William Dailey, First View, Col.; M. D. McCormick, Hugo, Col.; Jas. O'Brien, Denver, Col.; G. W. Shutt, Denver, Col.; E. A. Boardman, Golden, Col.

UNITED STATES CENTRAL—Gauge, 4-8½. (Projected.)
President—W. W. Walker, Cedar Rapids, Iowa.
Vice Presidents—E. T. Wells, Denver, Col.; Sampson Tams, San Francisco.
Chief Engineer—Lyman Bridges, San Francisco.
Secretary—Charles E. Walker, San Francisco.
Treasurer—R. H. McDonald, Jr., San Francisco.
Auditor—Frederick Madge, San Francisco.

UTAH CENTRAL—Gauge, 4-8½. Miles operated, 280. No. of locomotives, 51; passenger cars, 34; freight and miscellaneous cars, 324.
President—Sidney Dillon, New York.
Vice President and General Superintendent—John Sharp, Salt Lake City.
Assistant Superintendent—Jas. Sharp, Salt Lake City.
Secretary—Geo. Swan, Salt Lake City.
Treasurer—L. S. Hills, Salt Lake City.
General Ticket and Freight Agent—Francis Cope, Salt Lake City.
Purchasing Agent—S. H. Hill, Salt Lake City.
Master Mechanic—W. B. Armstrong, Salt Lake City.
Master Car Builder—Peter Reed, Salt Lake City.
Master Car Painter—J. Matthews, Salt Lake City.
Roadmaster—John Q. Leavitt, Salt Lake City.

UTAH & NEVADA—Gauge, 3. Miles operated, 37. No. of locomotives, 3; passenger cars, 9; freight and miscellaneous cars, 24.
President—Sidney Dillon, New York City.
Vice President, Sup'and Secretary—W. W. Riter, Salt Lake City, Utah.
Treasurer—Jas. M. Ham, New York City.
General Passenger and Freight Agent—S. F. Fenton, Salt Lake City, Utah.
Master Mechanic—Rob't Anderson, Salt Lake City, Utah.

UTICA & BLACK RIVER—Gauge, 4-8½. Miles operated, 180. No. of locomotives, 25; passenger cars, 26; freight and miscellaneous cars, 386.
President—John Thorn, Utica, N. Y.
Vice President and General Manager—J. F. Maynard, Utica, N. Y.
General Superintendent and Purchasing Agent—E. A Van Horne, Utica, N. Y.
Assistant Superintendent—H. W. Hammond, Utica, N. Y.
Secretary and Auditor—W. E. Hopkins, Utica, N. Y.
Treasurer—Isaac Maynard, Utica, N. Y.
General Passenger and Freight Agent—Theo. Butterfield, Utica, N. Y.
Master Mechanic—John Bailey, Utica, N. Y.
Master Car Builder—David James, Utica, N. Y.
Roadmaster—George D. Egert, Utica, N. Y.; S. Bryant, Carthage, N. Y.

UTICA, ITHACA & ELMIRA—Gauge, 4-8½. Miles operated, 120. No. of locomotives, 11; passenger cars, 18; freight and miscellaneous cars, 146.
President—Austin Corbin, New York city.
Vice President—J. R. Maxwell, New York city.
General Manager—A. A. McLeod, Elmira, N. Y.
Superintendent—George S. Sadler, Elmira, N. Y.
Secretary and Treasurer—F. W. Dunton, New York city.
Auditor—M. A. Smith, Elmira, N. Y.
Assistant General Passenger and Freight Agent—V. B. Myrtle, Elmira, N. Y.
Purchasing Agent—Edw. Mahler, Elmira, N. Y.
Master Mechanic—James Dickson, Cortland, N. Y.
Supervisor—P. Clancy, Cortland, N. Y.

VACA VALLEY & CLEAR LAKE—Gauge, 4-8½. Miles operated, 31. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 15.
President—A. M. Stevenson, Vacaville, Solano county, Cal.
Secretary and Treasurer—W. V. Huntington, San Francisco, Cal.
General Freight and Purchasing Agent—A. V. Stevenson, Vacaville, Cal.
Roadmaster—Joseph Young, Winters, Cal.

VALLEY—Gauge, 4-9. Miles operated, 76. No. of locomotives, 18; passenger cars, 16; freight and miscellaneous cars, 725.
President—J. H. Wade, Cleveland, O.
Vice President and Treasurer—S. T. Everett, Cleveland, O.
General Superintendent and Chief Engineer—J. E. Turk, Cleveland, O.
Secretary and Auditor—W. B. Porter, Cleveland, O.
General Passenger and Freight Agent—C. McD. Kile, Cleveland, O.
Master Mechanic and Car Builder—Chas. Blanchard, Cleveland, O.
Foreman of Locomotive Repairs—James Donovan, Cleveland, O.
Foreman of Car Repairs—Wm Fenwick, Cleveland, O.
Roadmaster—Thos. Delaney, Akron, O.

VERMONT VALLEY—Gauge, 4-8½. Miles operated, 50. No. of locomotives, 15; passenger cars, 2; freight and miscellaneous cars, 21.
President—A. B. Harris, Springfield, Mass.
General Superintendent and Purchasing Agent—John Mulligan, Springfield.
Assistant to Superintendent—J. E. Goodwin, Bellows Falls, Vt.
Treasurer—J. H. Williams, Bellows Falls, Vt.
Assistant Treasurer—Seth Hunt, Springfield, Mass.
Cashier—Geo. E. Frink, Springfield, Mass.
General Accountant—Wm. G. McIntyre, Springfield, Mass.
General Ticket Agent—C. H. Cram, Springfield, Mass.
General Baggage Agent—W. E. Hill, Springfield, Mass.
General Freight Agent—H. E. Howard, Springfield, Mass.
Foreman of Locomotive Repairs—R. D. Cobb, Windsor, Vt.
Roadmaster—W. E. Clark, Charlestown, N. H.

VICKSBURG, SHREVEPORT & PACIFIC DIVISION OF THE ALABAMA GREAT SOUTHERN—(See Cincinnati, New Orleans & Texas Pacific.)

VIRGINIA & TRUCKEE—Gauge, 4-8½. Miles operated, 52. No. of locomotives, 16; passenger cars, 10; freight and miscellaneous cars, 227.
President—D. O. Mills, Mills Building, 15 Broad st., New York.
Vice President and General Superintendent—H. M. Yerington, Carson City, Nev.
Secretary—E. B. Yerington, Virginia City, Nev.
Treasurer—Agency Bank of California, Virginia City, Nev.
Auditor—Robert H. Wright, Carson City, Nev.
General Passenger, Ticket and Freight Agent—D. A. Bender, Carson City.
Purchasing Agent—Hume Yerington, Carson City, Nev.
Master Mechanic—I. N. Fording, Carson City, Nev.

Master Car Builder—M. M. Hyde, Carson City, Nev.
Master Car Painter—D. R. Culp, Carson City, Nev.
Roadmaster—C. C. Atherton, Carson City, Nev.

VIRGINIA MIDLAND—Gauge, 4-8½ and 3. Miles operated, 412.70. No. of locomotives, 43; passenger cars. 22; freight and miscellaneous cars, 780.
President—Hon. John S. Barbour, Alexandria, Va.
Vice President and General Manager—Col. A. L. Rives, Richmond, Va.
Assistant General Manager—Major Peyton Randolph, Richmond, Va.
Engineer, Superintendent and Purch'g Agent—W. M. S. Dunn, Alexandria, Va.
Assistant Engineer—F. I. Cabell, Lynchburg, Va.
Secretary—Col. L. W. Reid. Alexandria, Va.
Treasurer—W. H. Marbury, Alexandria, Va.
Auditor—A. McLean, Alexandria, Va.
Traffic Manager—Sol Haas, Richmond, Va.
General Passenger Agent—M. Slaughter, Richmond, Va.
General Freight Agent—J. H. Drake, Richmond, Va.
Master of Machinery—J. E. Waddey, Alexandria, Va.
Master Car Builder—J. T. Nalls, Alexandria, Va.
Master of Transportation—J. Fisher, Alexandria, Va.
Roadmaster—Paul R. Evans, Alexandria, Va.
Supervisors—David T. Bailey, Charlottesville, Va.; J. W. Hood, Lynchburg, Va

WABASH, ST. LOUIS & PACIFIC—Gauge, 4-8½ and 3. Total miles operated, 3,608.4. No. of locomotives, 600; passenger cars, 387; freight and miscellaneous cars, 19,660.
President—Jay Gould, New York.
First Vice President—R. S. Hayes, St. Louis; Second Vice President, A. L. Hopkins, New York; Third Vice President, H. M. Hoxie, St. Louis; Fourth Vice President and Transportation Manager, A. A. Talmage, St. Louis.
Superintendent of Transportation—H. K. Wade, St. Louis.
Chief Engineer—W. S. Lincoln, St. Louis.
Consulting Engineer—R. Andrews, St. Louis.
Secretary—Jas. F. How, St. Louis.
Treasurer—A. H. Calef, New York.
Auditor—D. B. Howard, St. Louis.
Traffic Manager—Geo. Olds, St. Louis.
General Passenger Agent—H. C. Townsend, St. Louis.
General Ticket Agent—F. Chandler, St. Louis.
General Baggage Agent—Geo. P. Maule, St. Louis.
General Freight Agent—M. Knight, St. Louis.
Purchasing Agent—R. B. Lyle, St. Louis.
General Master Mechanic—Jacob Johann, Springfield, Ill.
Division Master Mechanics—J. B. Barnes, Ft. Wayne, Ind.; W. H. Shelby, Moberly, Mo.; J. C. Nash, Des Moines, Iowa; M. Honness, Peoria, Ill.; W. Morris, Carmi, Ill.
General Master Car Builder—U. H. Kohler, Toledo, O.; Division Master Car Builders, R. M. Hemphill, Peoria, Ill.; C. S. Buck, Moberly, Mo.
Master Car Painters—James Looker, Toledo, O.; N. Neher, Springfield, Ill.; Herman Bants, Ft. Wayne, Ind.; Thomas Kay, G. G. Gunther, Moberly, Mo.
Division Superintendents—G. W. Stevens, Peru, Ind.: D. G. Moore, Ass't, Cairo, Ill.; B. F. Mathias, Ass't, Rantoul, Ill.; E. N. Armstrong, Peoria, Ill.; E. B. Hyde, Ass't, Havana, Ill.; H. F. Clark, Springfield, Ill.; F. L. Tompkins, Ass't, Forrest, Ill.; F. D. Schermerhorn, Ass't, Quincy, Ill.; R. S. Miner, Moberly, Mo.; E. Dresser, Ass't, Stanberry, Mo.; C. F. Meek, Ass't, Des Moines, Iowa.
Roadmasters—R. A. Houghton, Defiance, O.; A. B. Adams, Lafayette, Ind.; J. N. Miner, Adrian, Mich.; Geo. E. Cain, Butler, Ind.; F. Sullivan, Peru, Ind.; J. W. Lunt, Indianapolis, Ind.; R. L. Perry, Decatur, Ill.; Isaac Bailey, Griggsville, Ill.; E. B Ball, Clayton, Ill.; Jas. McBride, Jerseyville, Ill.; Patrick Ward, Carmi, Ill.; C. Melville, Havana, Ill.; G. W. Larr, Marshall, Ill.; C. Bender, Cairo, Ill.; C. Ennis, Gilman, Ill.; M. Gill, Rantoul, Ill.; J. R. Steele, Chicago, Ill.; S. L. Swinney, Bement, Ill.; J. H. Sparks, Clinton, Ill.; J. A. Perry, Jacksonville, Ill.; D. C. Wilson, Ferguson, Mo.; L. F. Barton, Brunswick, Mo.; C. Twohey, A. A. S. Haines, Kirksville, Mo.; D. Leary, Richmond, Mo.; F. H. McGuigan, Stanberry, Mo.; O. W. Litney, Shenandoah, Iowa; John Harding, Centerville, Iowa; Daniel Coughlin, Des Moines, Iowa.

WALDEN'S RIDGE—Gauge, 3. Miles operated, 23. No. of locomotives, 3. passenger cars, 1; freight and miscellaneous cars, 36.
President and General Manager—John G. Scott, Jenks P. O., Tenn.

WALKILL VALLEY—Gauge, 4-8½. Miles operated, 38; No. of locomotives, 2; passenger cars, 3; freight and miscellaneous cars, 16.
President—E. F. Winslow, 15 Broad st., N. Y.
Vice President—Theo. N. Houston, 15, Broad st., N. Y.
General Manager—J. D. Layng, 15 Broad st., N. Y.
Superintendent—Geo. H. Graves, Kingston, N. Y.
Chief Engineer—Walter Katte, 15 Broad st., New York.
Secretary and Treasurer—F. E. Worcester, 15 Broad st., New York.
Auditor—J. W. Reinhart, 15 Broad st., New York.
Traffic Manager—W. P. Robinson, 15 Broad st., New York.

For the Best Wrought Iron R. R.

TURN-TABLE,

Write to **TIPPETT & WOOD**, Phillipsburg, N. J.

ALSO BUILDERS OF
WATER TANKS,
STAND PIPES,
STEAM BOILERS,
— AND —
Plate Iron Work of All Kinds,

HASLUP'S PATENT WHEELED SCRAPER

Has Great Advantages Over All Others.

They have more capacity and are easier handled by man and team. Supersedes wagons and shovels, makes the contractor independent. Good on long or short hauls. **Gives entire satisfaction.**

Haslup's Patent

ALL STEEL DRAG SCRAPERS

Beat all others for Capacity, Durability, Strength and Light draft. Being ALL STEEL (except wood handles), are lighter, stronger and better made than any other. **3 SIZES.** Also

Township and R. R. Plows.

Send for Circulars to **SIDNEY STEEL SCRAPER CO., Sidney, Ohio.**

THE BUFFALO STEEL FOUNDRY,

BUFFALO, N. Y.

PRATT & LETCHWORTH, Proprietors. Orders and Correspondence Solicited.

General Passenger and Ticket Agent—Henry Monett, 15 Broad st.. New York.
General Freight Agent—B. H. Ball, 15 Broad st., New York.
Purchasing Agent—P. S. Bemis, 15 Broad st., New York.
Supt. Motive Power and Machinery and Master Car Builder, R. H. Soule, 15 Broad st., New York.

WALTON—Gauge, 5. Miles operated, 10. No. of locomotives, 1; passenger cars, 2; freight and miscellaneous cars, 5.
President—D. H. Walker, Monroe, Ga.
Chief Engineer—John T. Norton, Monroe, Ga.
General Passenger and Freight Agent—C. T. Mobley, Monroe, Ga.
Roadmaster—W. G. White, South Circle, Ga.

WARREN & FARNSWORTH VALLEY—Gauge, 3. Miles operated, 16. No of locomotives, 3; passenger cars, 3; freight and miscellaneous cars, 30.
President—M. Waters, Warren, Pa.
General Manager. Chief Engineer and Treasurer—A. D. Wood, Warren, Pa.
Secretary—J. P. Jefferson, Warren, Pa
Auditor—C. P. Wilkins, Clarendon, Pa.
Supt. Motive Power and Machinery—P. Savage, Clarendon, Pa.
Supervisor—L. P. Daly, Clarendon, Pa.

WASHINGTON, OHIO & WESTERN—Gauge, 4-9. Miles operated, 50.2. No. of locomotives, 8; passenger cars, 23 (includes baggage and combined); freight and miscellaneous, 121.
President—Archer N. Martin, New York.
Superintendent—S. M. Brophy, Alexandria, Va.
Chief Engineer—Robert Bell, Alexandria, Va.
Secretary—Chas. E. Kimball, New York.
Treasurer—H. D. Cooke, Washington, D. C.
Supervisor—Michael Murphy, Alexandria, Va.

WATERLOO & MAGOG—Gauge, 4-8½. Miles operated, 39. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 25.
President—E. Slack, Waterloo, P. Q.
Superintendent and Purchasing Agent—J. B. Futvoye, St. Johns, P. Q.
Secretary—A. H. Moore, Magog, P. Q.
Roadmaster—O. Courville, South Stukely, P. Q.

WAYNESBURG & WASHINGTON—Gauge, 3. Miles operated, 28.9. No. of locomotives, 3; passenger cars, 3; freight and miscellaneous cars, 25.
President—J. F. Temple, Waynesburg, Pa.
Vice Presidents—J. A, J. Buchanan, C. A. Black, Jas. E. Sayers, Waynesburg, Pa.
General Superintendent and Purchasing Agent—C. E. Bower, Waynesburg.
Secretary—J. G. Ritchie, Waynesburg, Pa.
Treasurer—L. J. Braden, Waynesburg, Pa.
Auditor—J. T. Rogers, Waynesburg, Pa.
General Ticket Agent—D. McCollum, Waynesburg, Pa.
General Baggage Agent—J. D. McKahan, Waynesburg, Pa.
Master Mechanic and Master Car Builder—A. M. Kline, Waynesburg, Pa.
Foreman of Locomotive Repairs—Geo. Wolf, Waynesburg, Pa.
Roadmaster—M. Shannon, Waynesburg, Pa.

WELLAND OF CANADA—Gauge, 4-8½. Miles operated, 25. No. of locomotives, 4; passenger cars, 5; freight and miscellaneous cars, 133.
President and General Manager—Thomas R. Merritt, St. Catharines, Ontario
Superintendent and Chief Engineer—William Pay, St. Catharines, Ontario.
Secretary and Treasurer—C. A. F. Ball, St. Catharines.
General Passenger, Ticket, Baggage and Freight Agent—John Vanderburgh, St. Catharines, Ontario.
Purchasing Agent, Master Car Builder and Roadmaster—William H. Pay, St. Catharines, Ontario.
Master Mechanic—Joseph H. Taylor, St. Catharines, Ontario.
Master Car Painter—John Sutter, St. Catharines, Ontario.

WESTERN & ATLANTIC—Gauge, 5, Miles operated, 138. No. of locomotives, 52; passenger cars, 25; freight and miscellaneous cars, 1,450.
President—Hon. Jos. E. Brown, Atlanta, Ga.
Vice President—W. C. Morrill, Atlanta, Ga.
General Superintendent and Purchasing Agent—R. A. Anderson, Atlanta.
Assistant Superintendent—A. B. Bostick, Atlanta.
Secretary and Treasurer—W. C. Morrill, Atlanta.
General Passenger Agent—B. W. Wrenn, Atlanta.
General Freight Agent—Jos. M. Brown, Atlanta.
Master Mechanic and Car Builder—John H. Flynn, Atlanta.
Foreman of Locomotive Repairs—M. L. Collier, Atlanta.
Foreman of Car Repairs—Wm. Kinyon, Atlanta.
Master Car Painter—W. P. Moring, Atlanta.
Roadmasters—M. H. Dooly, Atlanta; H. A. Butler, Kennesaw, Ga.

instantly,

WESTERN COUNTIES—Gauge, 4-8½. Miles operated, 67. No. of locomotives, 4; passenger cars, 6; freight and miscellaneouscars, 77
President—Hon. L. E. Baker, Yarmouth, N. S.
General Superintendent—James Brignell, Yarmouth, N. S.
Secretary and Treasurer—Jas. Went Bingay, Yarmouth, N. S.

WESTERN MARYLAND—Gauge, 4-8½. Miles operated, 126. No. of locomotives, 30; passenger cars, 38; freight and miscellaneous cars, 490.
President, General Manager and Chief Engineer—J. M. Hood, Baltimore, Md.
Vice President—Alexander Rieman, Baltimore.
Engineer and Roadmaster—J. E. Mathews, Baltimore.
Assistant Roadmaster—W. R. Straw, Union Bridge, Md.
Assistant Engineer—Geo. H. Coryell, Hagerstown, Md.
Secretary—John S. Harden, Baltimore.
Auditor and General Ticket Agent—J. D. Whittington, Baltimore.
General Passenger and Freight Agent—B. H. Griswold, Baltimore.
Purchasing Agent—R. J. Adair, Baltimore.
Master of Machinery—David Holtz, Union Bridge, Md.
Master Car Builder—J. H. Nussear, Union Bridge, Md.
Master Car Painter—E. W. Leeds, Union Bridge, Md.

WESTERN NORTH CAROLINA—Gauge, 5. Miles operated, 220. No. of locomotives, 21; passenger cars, 9; freight and miscellaneous cars, 164.
President—A. B. Andrews, Raleigh, N. C.
Vice President—Frank Coxe, 1730 Spruce street, Philadelphia, Pa.
Second Vice President and General Manager—A. L. Rives, Richmond, Va.
Superintendent—V. E. McBee, Salisbury N. C.
Chief Engineer—J. W. Wilson, Morganton, N. C.
Secretary and Treasurer—G. P. Erwin, Salisbury, N. C.
Auditor—John W. Daniel, Salisbury, N. C.
General Passenger Agent—M. Slaughter. Richmond, Va.
Assistant General Passenger and Freight Agent W. A. Turk, Salisbury, N. C.
Traffic Manager—Sol. Haas, Richmond, Va.
General Freight Agent—J. H. Drake, Richmond, Va.
Purchasing Agent—Joseph P. Minetree, Richmond, Va.
Master Mechanic—G. W. Gates, Salisbury, N. C.
Roadmaster—G. W. Payne, Salisbury, N. C.

WESTERN OF ALABAMA—Gauge, 5. Miles operated, 88. No. of locomotives, 15; passenger cars, 27; freight and miscellaneous cars, 239.
President—L. P. Grant, Atlanta, Ga.
General Manager and Purchasing Agent—Cecil Gabbett, Montgomery, Ala.
Secretary, Treasurer and Auditor—H. M. Abbett, Montgomery, Ala.
Master Mechanic and Car Builder—C. D. Wall, Montgomery, Ala.
Foreman of Locomotive Repairs—J. E. Warswick, Montgomery, Ala.
Foreman of Car Repairs—J. W. Johnson, Montgomery, Ala.
Foreman Car Painters—Thos. Childerson, Montgomery, Ala.
Roadmaster—George P. Hughes, Montgomery, Ala.

WEST JERSEY—Gauge, 4-9. Miles operated, 186.45. (Owned, 105.87; leaseds 80.58.) No. of locomotives, 25; passenger cars, 68; freight and miscellaneous cars, 194.
President—Geo. B. Roberts, Philadelphia, Pa.
Vice President—W. J. Sewell, Camden, N. J.
General Manager—Chas. E. Pugh, Philadelphia, Pa.
Superintendent—Jos. Crawford, Camden, N. J.
Chief Engineer—W. H. Brown, Philadelphia.
Assistant Engineer—F. P. Abercrombie, Camden, N. J.
Secretary and Treasurer—William Taylor, Philadelphia.
Auditor of Disbursements—Thos. P. Davis, Philadelphia.
Auditor of Freight Receipts—G. M. Taylor, Philadelphia.
General Passenger Agent—J. R. Wood, Philadelphia.
Division Ticket Agent—J. S. Hackett, Philadelphia.
General Baggage Agent—F. J. McWade, Philadelphia.
General Freight Agent—John S. Wilson, Philadelphia.
Purchasing Agent—Enoch Lewis, Philadelphia.
General Superintendent Motive Power—Theo. N. Ely, Altoona, Pa.
Asst. Supt. Motive Power—H. S. Hayward, Jersey City, N. J.
Master Mechanic—W. McAlister. Camden, N. J.
Road Foreman—W. Rickard, Camden, N. J.
Master Car Builder—C. C. Williams, Camden, N. J.
Supervisor—H. B. Bannard, Woodbury, N. J.

WESTON & BUCKHANNON—Gauge, 3. Miles operated, 15.
General Superintendent—A. H. Kunst, Weston, W. Va.

WEST VIRGINIA CENTRAL & PITTSBURGH—Gauge, 4-8½. Miles operated, 50. No. of locomotives, 4; passenger cars, 3; freight and miscellaneous cars, 112.
President—Henry G. Davis, Piedmont, W. Va.
Vice President—S. B. Elkins, No. 92 Broadway, N Y.
General Manager—T. B. Davis, Piedmont, W. Va.
General Superintendent—W. E. Porter, Piedmont, W. Va.
Acting Chief Engineer—James Parsons, Piedmont, W. Va.

Secretary—A. Ebert, 92 Broadway, New York.
Treasurer—C. M. Hoult, 24 Second street, Baltimore.
Auditor—Neill Woodrow, Piedmont, W. Va.
General Passenger and Purchasing Agent—Geo. W. Harris, Piedmont, W. Va.
Master Mechanic—E. W. Lippincott, Piedmont, W. Va.

WHEELING & LAKE ERIE—Gauge, 4-8½. Miles operated, 168; No. of locomotives, 25; passenger cars, 16; freight and miscellaneous cars, 1,735.
President—O. Garrison, Toledo, O.
Vice President and General Manager—M. D. Woodford, Toledo
Chief Engineer—C. A. Wilson, Toledo.
Secretary and Auditor—S. H. Ayers, Toledo.
Treasurer—G. L. Geraun, New York.
General Passenger and Ticket Agent—J. M. Hall, Toledo.
General Freight Agent—A. G. Blair, Toledo.
Purchasing Agent—W. R. Woodford, Toledo.
Master Mechanic—O. P. Dunbar, Norwalk, O.
Roadmaster—D. McEntaffer, Norwalk, O.

WHITE WATER—(See Ft. Wayne, Cincinnati & Louisville.)

WICOMICO & POCOMOKE—Gauge, 4-9. Miles operated, 30. No. of locomotives, 2; passenger cars, 6; freight and miscellaneous cars, 22.
President and General Superintendent—Lemuel Showell, Berlin, Worcester county, Md.
Secretary and Treasurer—R. I. Henry, Berlin, Worcester county, Md.
Roadmaster—S. McMullen, Berlin, Md.

WILLIAMSPORT & NORTH BRANCH—Gauge, 4-8½. Miles operated, 6. (8 more building.) No. of locomotives, 2; passenger cars, 3; baggage cars, 1.
President and General Manager—Benj. G. Welch, Hughesville, Pa.
Vice President—Dewitt Bodine, Hughesville, Pa.
Secretary—C. W. Woddrop, Hughesville, Pa.
Auditor—S. D. Townsend, Hughesville, Pa.

WILLIAMSTOWN & DELAWARE RIVER—Gauge, 4-8½. Miles operated, 18: No. of Locomotives, 2; passenger cars, 2; freight and miscellaneous car, 8.
President—Geo. De B. Keim, Philadelphia, Pa.
General Supt. and Purchasing Agent—S. Garwood, Williamstown, N. J.
Secretary—Albert Foster, Philadelphia.
Treasurer—John Welsh, Philadelphia.

WILMINGTON & NORTHERN—Gauge, 4-8½. Miles operated, 87: No. of locomotives, 17; passenger cars, 16; freight and miscellaneous cars, 133.
President—Col. H. A. Du Pont, Wilmington, Del.
Superintendent—A. G. McCausland, Wilmington, Del.
Chief Engineer—J. H. Thompson, Wilmington, Del.
Secretary and Treasurer—P. S. Ennold, Reading, Pa.
General Passenger Agent—L. A. Bower, Wilmington, Del.
Master Mechanic—Geo. Rommel, Wilmington, Del.
Roadmaster—Jacob Gaus, Wilmington, Del.

WILMINGTON & WELDON AND WILMINGTON, COLUMBIA & AUGUSTA—Gauge, 4-8½ and 5. Miles operated, 391. No. of locomotives, 54; passenger cars, 55; freight and miscellaneous cars, 999.
President and General Manager—R. R. Bridgers, Wilmington, N. C.
General Sup't and Purchasing Agent—J. F. Divine, Wilmington, N. C.
Traffic Manager—Sol. Haas, Richmond, Va.
General Passenger and Freight Agent—T. M. Emerson, Wilmington, N. C.
Treasurer—J. W. Thompson, Wilmington, N. C.
Auditor—W. A. Risch, Wilmington, N. C.
Master Mechanic—John Bissett, Wilmington, N. C.
Master Car Builders—C. R. Clowe, Wilmington, N.C.; W.H. Day, Florence, S.C.
Master Car Painter—B. F. Murphy, Wilmington, N. C.
Engineer of Roadway—B. R. Dunn, Wilmington, N. C.
Roadmasters—John Barry, Wilmington, N. C.; N. Freeland, Sumter, S. C.
Inspector of Wood and Cross Ties—P. Laughlin, Wilmington, N. C.

WINDSOR & ANNAPOLIS—Gauge, 4-8½. Miles operated, 130. No. of locomotives, 10; passenger cars, 10; freight and miscellaneous cars, 160.
President—F. Tothill, London, Eng.
General Manager—P. Innes, Kentville, N. S.
Assistant Manager—J. W. King, Kentville, N. S.
Chief Engineer—K. Sutherland, Kentville, N. S.
General Passenger and Ticket Agent and Auditor—P. Gifkins, Kentville, N. S.
Traffic Superintendent—J. Carroll, Kentville, N. S.
Master Mechanic—W. Yould, Kentville, N. S.
Master Car Builder—W. Grierson, Kentville, N. S.
Secretary—W. R. Campbell, London, Eng.
Roadmaster—S. Travis, Kentville, N. S.

WISCONSIN CENTRAL—Gauge, 4-8½. Miles operated, 494; No. of locomotives, 49; passenger cars, 40; freight and miscellaneous cars, 1,776.
President—Chas. L. Colby, Milwaukee, Wis.

Vice President and Secretary—Edwin H. Abbott, Milwaukee.
General Manager and Chief Engineer—F. N. Finney, Milwaukee.
Division Engineers—W. O. Seymour, Milwaukee; W. B. Agnew, Stevens Point, Wis.
Treasurer—Chas. L. Colby, Milwaukee.
Auditor and General Passenger, Baggage and Ticket Agent—James Barker, Milwaukee.
General Freight Agent—T. H. Malone, Milwaukee.
Purchasing Agent—E. K. Howes, Milwaukee.
Fuel Agent—W. Peck, Menasha, Wis.
Master Mechanic—W. A. Short, Stevens Point, Wis.
Foreman of Locomotive Repairs—Alfred Owen, Stevens Point, Wis.
Foreman of Car Repairs—Wm. Cormack, Stevens Point, Wis.
Foreman Car Painter—Peter Bergman, Stevens Point, Wis.
Superintendents—A. A. Allen, Milwaukee; W. E. Carroll, Stevens Point, Wis.
Roadmasters—Wm. Hancock, Neenah, Wis.; B. Hall, Abbotsford, Wis.; M. Mahoney, Chippewa Falls, Wis.

WISCONSIN, IOWA & NEBRASKA—Gauge, 4-8½. Miles operated, 139.
President—John H. Fisher, Marshalltown, Ia.
Superintendent—Geo. C. McMichael, Marshalltown, Ia.
Chief Engineer—C. C. Gilman, Marshalltown, Ia.
Auditor and Local Treasurer—Willard T. Black, Marshalltown, Ia.

WOOD RIVER BRANCH—Gauge, 4-8½. Miles operated, 5.7. No. of locomotives, 2; passenger cars, 2; freight and miscellaneous cars, 1.
President—Harris Lanpheare, Rockville, R. I.
General Superintendent - L. M. Barber, Hope Valley, R. I.
Secretary, Treasurer and Auditor—Geo. H. Olney, Hope Valley, R. I.
Roadmaster—H. A. Clark, Hope Valley, R. I.

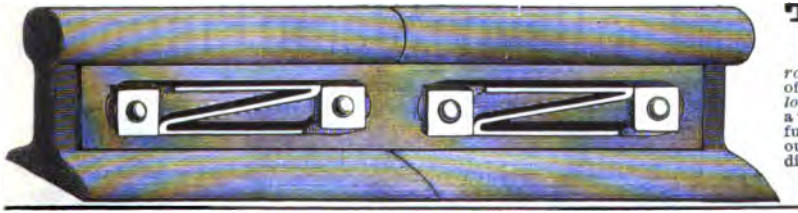
WOODSTOCK—Gauge, 4-8½. Miles operated, 14. No. of locomotives, 1; passenger cars, 2; freight and miscellaneous cars, 2.
President—Frederick Billings, Woodstock, Vt.
Vice President—J. F. McKinzie, Woodstock, Vt.
Manager—S. S. Thompson, Lyndonville, Vt.
Superintendent, Treasurer and Traffic Manager—J. G. Porter, Woodstock, Vt.
Chief Engineer—Hasen Doton, Woodstock, Vt.

WORCESTER & SHREWSBURY—Gauge, 3. Miles operated, 3. No. of locomotives, 3; passenger cars, 6; freight and miscellaneous cars, 3.
President—Dr. Charles H. Perry, Worcester, Mass.
General Superintendent—J. J. Coburn, Worcester, Mass.
Purchasing Agent and Treasurer—George E. Hapgood, Worcester, Mass.
Master Mechanic—Charles A. Cleveland, 37 Shrewsbury st., Worcester, Mass.
Secretary—Walter F. Brooks, Worcester, Mass.
Roadmaster—John Sullivan, 37 Shrewsbury st., Worcester, Mass.

WORCESTER, NASHUA & ROCHESTER—Gauge, 4-8½. Miles operated, 95. No. of locomotives, 20; passenger cars, 22; baggage cars, 9; freight and miscellaneous cars, 412.
President, General Manager and Purchasing Agent—C. S. Turner, Worcester, Mass.
Superintendent—G. W. Hurlburt, Worcester, Mass.
Treasurer and Auditor—T. W. Hammond, Worcester, Mass.
General Ticket Agent—C. A. Waite, Worcester, Mass.
General Freight Agent—J. M. Williams, Worcester, Mass.
Master Mechanic and Car Builder—John G. Brady, Worcester, Mass.
Foreman of Locomotive Repairs—John V. Chamberlin, Worcester, Mass.
Foreman of Car Repairs—James H. Crosby, Worcester, Mass.
Master Car Painter—John Donahue, Worcester, Mass.
Roadmaster—N. B. Chandler, Nashua, N. H.

YORK & PEACH BOTTOM—Gauge, 3. Miles operated, 40. No. of locomotives, 4; passenger cars, 7; freight and miscellaneous cars, 52.
President—C. R. McConkey, Peach Bottom, Pa.
General Superintendent, Chief Engineer, General Freight and Purchasing Agent—S. M. Manifold, York, Pa.
Secretary—E. C. Bender, York, Pa.
Treasurer—E. G. Smyser, York, Pa.
General Passenger and Ticket Agent—F. C. Metzger, York, Pa.
Master Mechanic—L. J. Williams, York, Pa.

YIOUGHIOGHENY—Gauge, 4-9. Miles operated, 12.
President—F. A. Dingee, Philadelphia, Pa.
Secretary and Treasurer—S. T. Billmeyer, Philadelphia.
General Superintendent—Wm. Wilson, Irwin's, Pa.



The Mercer Nut-Lock.

A NEW AND PERFECT NUT-LOCK—SIMPLE DURABLE AND CHEAP.

Adapted for LOCKING ALL KINDS OF NUTS; and especially those on *Railroad Track Joints*. During a trial of over *two years* on a three mile section of the main line of one of the great trunk lines, not a *single nut became loosened*, and not one could be forced up more than *one-fourth of a turn* with a wrench. Easily applied and readily removed without injury. Trial orders furnished free of expense, by forwarding the following dimensions: 1st, The outside square of the nuts used and whether square or hexagon. 2nd, The distance from centre to centre of Bolts used. 3rd, The size of the bolts used. Correspondence and orders solicited.

THE MERCER NUT-LOCK CO., West Chester, Chester county, Pa.

RATCHETS, DRILLS, WRENCHES.

The LOWELL WRENCH COMPANY,

WORCESTER, MASS.

In this, our NEW RATCHET DRILL, we present the result of

15 Years' Experience in the Manufacture of Ratchets.

WE INVITE COMPARISON IN

PRICE, QUALITY, FINISH,

or any particular required in a good tool.

Ratchet Wrenches to fit nuts from ⅜ in. to 3¾ inches.

Ratchet Wrenches and Drills made to order from drawings or specifications.

ATTENTION!

Car Roofers & Car Builders,

If you wish to use a strictly first-class article of ROOFING TIN, use

Taylor's Improved Genuine

'OLD STYLE'

(BRAND)

DOUBLE COATED RE-DIPPED

ROOFING TIN.

See to it that you get the genuine article only.

N. & G TAYLOR & CO., Philadelphia, Are the sole importers of the Genuine "OLD STYLE" Roofing Tin, and every box bears their name, their Registered Trade Mark and guarantee of quality.

Send to them for Samples and Prices.

THE E. HORTON & SON CO.,

WINDSOR LOCKS, CONN., U. S. A.

MANUFACTURERS OF

PATENT LATHE CHUCKS, & CAR WHEEL CHUCKS,

Universal, Independent, or both Combined.

TRADE MARK.

THE HORTON LATHE CHUCK.

NONE GENUINE WITHOUT IT.

The Chucks made by this company require no testimonials of merit. They are in use all over the civilized world; and they have sustained the tests for over thirty years; they have served as models for imitation, and are used by advertisers of other Chucks as standards of comparison.

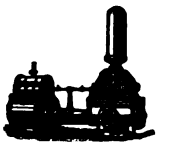
THE CAR WHEEL CHUCK

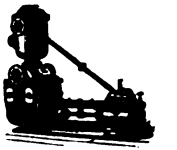
can be used either on a Lathe Spindle or on the table of an upright boring machine, and its jaws are so made that they true the wheel both ways.

Send for Illustrated Catalogue, giving full description and prices.

The Deane Steam Pump Co.

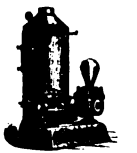
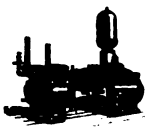
HOLYOKE, MASS.





Send for New

Illustrated Catalogue.

MANUFACTURE

Steam Pumping Machinery of Every Description.

SLEEPING CAR COMPANIES.

NEW YORK CENTRAL SLEEPING CAR COMPANY—Office: Opposite Grand Central Depot, New York.
President—Augustus Schell, New York.
Vice President—J. Tillinghast, New York.
Secretary and Treasurer—J. D. Taylor, New York.
Western Manager—Alfred White, Detroit.
General Superintendent—N. L. Wagner, New York.
Assistant General Superintendent—N. M. Wheeler, New York.
Superintendent Car Repairs—T. H. Munsell, Buffalo. N. Y.
Superintendent Northwestern Division—S. R. Hibbard, Chicago.
Superintendent Wagner Shore Line—C. D. Flagg, New York.
Superintendent Southwestern Division—J. A. Spoor, St. Louis, Mo.
Superintendent Michigan Division—Wells Dygert, Detroit.
Superintendents—W. S. Odell, Buffalo, N. Y.; Walter Burns, Boston.

PULLMAN'S PALACE CAR COMPANY—General Offices: Corner Michigan avenue and Adams street, Chicago. New York Office: Mills Building, No. 15 Broad street, New York.
President—George M. Pullman.
Vice President—H. Porter, New York.
Second Vice President—A. B. Pullman.
Assistant to President—W. E. Barrows.
Secretary—A. S. Weinsheimer.
Assistant Secretary—W. A. Lincoln.
General Counsel—O. A. Lochrane.
Auditor—C. H. Davie.
General Superintendent—George F. Brown.
Assistant to General Superintendent—Robert Barry.
General Ticket Agent—George M. Gray.
Contracting Agent—L. B. Matthews.
Purchasing Agent—William A. Angell.
Assistant Purchasing Agent—S. W. Bretzfield, New York.
Division Superintendents—E. H. Goodman, Central Division, Philadelphia, Pa.; E. A. Jewett, Chicago Division, Chicago, Ill.; T. H. Wickes, St. Louis Division, St. Louis, Mo.; H. S. Billings, Erie Division, New York, 187 West street; W. H. Reed, Eastern Division, Montreal, Can.; H. S. Roberts, European Division, Midland Railway, St. Pancras Station, London, England.
Assistant Superintendents—J. P. Meehan, San Francisco, Cal.; L. E. McPherson, Louisville, Ky.; John C. Bailey, New Orleans, La.; A. L. Kontz (agent), Atlanta, Ga.; C. P. Krauth, Jr., Boston, Mass.; M. P. Kinney, Chicago, Ill.; W. A. Hayes, Chicago; E. M. Grove, Cincinnati, O.; C. W. Brown, Denver, Col.; F. W. Gates, Hornellsville, N. Y.; D. H. Martyn, Galveston, Tex.; D. W. Morrison, Jersey City, N. J.; T. B. Boothby, Kansas City, Mo.; J. H. Sims, Philadelphia, Pa.; W. F. Crouch, Pittsburgh, Pa.; C. A. Garcelon, St. Louis, Mo.; W. F. Barker, Washington, D. C.; J. A. Walker, Wilmington, N. C.; J. K. Bennett (agent), Buffalo, N. Y.; E. Dunn, Savannah, Ga.; E. Pagels (agent), Columbus, O.; J. R. Wood (agent), Detroit, Mich.; C. B. Tennant (agent), Richmond, Va.; John H. Silance, Montreal, Can.; W. H. Boot (agent), Portland, Oregon; F. E. Rice, St. Paul, Minn.

PULLMAN SOUTHERN CAR COMPANY—General Office: Louisville, Ky.
President—George M. Pullman, Chicago, Ill.
Vice President and General Superintendent—G. F. Brown, Chicago.
Secretary—A. S. Weinsheimer, Chicago.
General Counsel—O. A. Lochrane, Chicago.
Assistant General Superintendent—James Martin, Louisville, Ky.

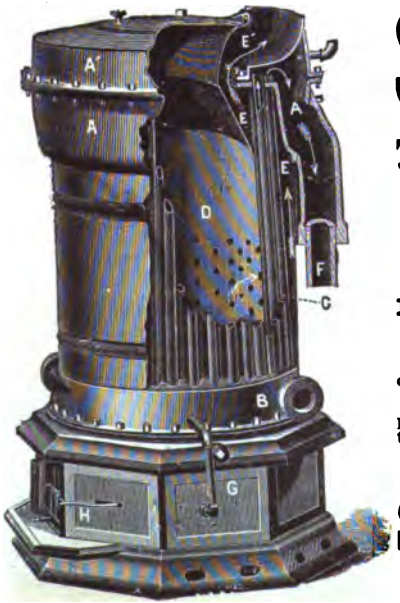
PULLMAN PACIFIC CAR COMPANY—General Office: Omaha, Neb. Chicago Office: Corner Michigan avenue and Adams street.
President—George M. Pullman, Chicago, Ill.
Assistant to President—G. F. Brown, Chicago.
Secretary—A. S. Weinsheimer, Chicago.
General Superintendent—L. M. Bennett, Omaha, Neb.
Assistant to General Superintendent—W. H. Scott, Omaha.
Assistant Superintendent—J. E. Coolidge, Ogden, Utah.

WOODRUFF SLEEPING & PARLOR COACH CO.
President—Job H. Jackson, 430 Walnut st., Philadelphia.
General Superintendent—J. C. Paul, 430 Walnut st., Philadelphia.
Secretary and Treasurer—Augustus Trump, 430 Walnut st., Philadelphia.
Assistant Superintendents—Moses Cleave, Union Depot, Cleveland, O.; E. W. Timmony, Indianapolis, Ind.; F. H. Crane, 123 Dearborn st., Chicago; J. A. Spoor, 100 North Third st., St. Louis, Mo.

FOR SAFETY, EFFICIENCY AND ECONOMY,

USE THE

SALMON CAR HEATERS.



They consume less coal and HEAT UP THE CIRCUIT QUICKER than any other heater in use, and can be used with or without pressure.

THE WATER TUBES DO NOT COME IN CONTACT WITH THE COALS,

But occupy the Smoke Flue in such manner as to absorb the greatest amount of heat from coal in a low state of combustion, without danger of chilling the fire.

When running with a closed tank, from TWO to FIVE POUNDS of pressure—if any—is required, and that only in severe weather.

In a recent test of over 50 trips—the outside temperature ranging from 4 degrees below zero to the freezing point—the average temperature inside the car, during the several weeks occupied by the test, was 67.3 degrees—this average being obtained with a CLOSED TANK and WITHOUT PRESSURE!

Correspondence Solicited.

SALMON WATER & STEAM HEATER CO.,

Office 48 Congress St., - - - BOSTON, MASS.

VALUABLE REFERENCE TABLES.

Population of Principal Cities

HAVING A POPULATION OF 30,000 AND UPWARD, ACCORDING TO THE UNITED STATES CENSUS OF 1890.

Rank.			*Rank.*		
21	Albany, N. Y.	90,758	38	Minneapolis, Minn	46,887
23	Allegheny, Pa	78,682	40	Nashville, Tenn	43,350
49	Atlanta, Ga	37,409	15	Newark, N. J	136,508
7	Baltimore, Md	332,313	26	New Haven, Conn	62,882
5	Boston, Mass	362,839	10	New Orleans, La	216,090
3	Brooklyn, N. Y	566,663	1	New York, N. Y	1,206,299
13	Buffalo, N. Y	155,134	51	Oakland, Cal	34,555
31	Cambridge, Mass	52,669	63	Omaha, Neb	30,518
44	Camden, N. J	41,659	34	Paterson, N. J	51,031
36	Charleston, S. C	49,984	2	Philadelphia, Pa	847,170
4	Chicago, Ill	503,185	12	Pittsburgh, Pa	156,389
8	Cincinnati, O	255,139	53	Portland, Me	33,810
11	Cleveland, O	160,146	20	Providence, R. I	104,857
33	Columbus, O	51,647	41	Reading, Pa	43,278
47	Dayton, O	38,678	25	Richmond, Va	63,600
50	Denver, Col	35,629	22	Rochester, N. Y	89,369
18	Detroit, Mich	116,340	9	San Francisco, Cal	233,959
37	Fall River, Mass	48,961	62	Savannah, Ga	30,700
58	Grand Rapids, Mich	32,016	39	Scranton, Pa	45,850
60	Harrisburg, Pa	30,762	55	Springfield, Mass	33,340
43	Hartford, Conn	42,015	57	St. Joseph, Mo	32,431
59	Hoboken, N. J	30,999	6	St. Louis, Mo	350,518
24	Indianapolis, Ind	75,056	45	St. Paul, Minn	41,473
17	Jersey City, N. J	120,722	32	Syracuse, N. Y	51,792
30	Kansas City, Mo	55,785	35	Toledo, O	50,137
46	Lawrence, Mass	39,151	64	Trenton, N. J	29,910
16	Louisville, Ky	123,758	29	Troy, N. Y	56,747
27	Lowell, Mass	59,475	52	Utica, N. Y	33,914
43	Lynn, Mass	38,274	14	Washington, D. C	147,293
56	Manchester, N. H	32,630	61	Wheeling, W. Va	30,737
54	Memphis, Tenn	33,592	42	Wilmington, Del	42,478
19	Milwaukee, Wis	115,587	28	Worcester, Mass	58,291

Altitudes Above the Sea Level of Various Places in the United States.

Portland, Me	187	St. Anthony Falls, Minn	820
Concord, N. H	374	New Ulm, Minn	1,500
Rutland, Vt	500	Dubuque, Iowa	666
Boston, Mass	82	Rossville, Iowa	1,400
Albany, N. Y	75	Sioux City, Iowa	1,258
New York, N. Y	60	St. Louis, Mo	481
Buffalo, N. Y	585	Omaha, Neb	1,300
Philadelphia, Pa	60	Ionia, Neb	3,000
Somerset, Pa	2,195	Lawrence, Kan	800
Pittsburgh, Pa	937	Fort Larned, Kan	1,932
Baltimore, Md	275	Fort Phil Kearney, Wyoming	6,000
Washington, D. C	90	Cheyenne, Wyoming	6,041
Charleston, S. C	25	Yanton, Dak	1,900
Key West, Florida	10	Fort Garland, Col	8,365
Hillsboro, Ga	800	Alma, Col	10,254
Vicksburg, Miss	350	Breckenridge, Col	9,674
New Orleans, La	10	Black Hawk, Col	7,875
Corpus Christi, Tex	20	Colorado Springs, Col	6,023
El Paso, Tex	3,830	Denver, Col	5,197
Knoxville, Tenn	1,000	Georgetown, Col	8,514
Little Rock, Ark	660	Fairplay, Col	9,964
Louisville, Ky	450	Boulder, Col	5,536
Cincinnati, O	480	Kokomo, Col	10,200
Upper portion of city	583	Leadville, Col	10,247
Ft. Mohave, Ariz	604	Lake City, Col	8,550
San Francisco, Cal	130	Manitou, Col	6,297
Cleveland, O	643	Ouray, Col	7,640
Detroit, Mich	597	Pueblo, Col	4,713
Ann Arbor, Mich	891	Rosita, Col	8,500
Indianapolis, Ind	698	Silverton, Col	9,400
Chicago, Ill	591	Helena, Mon	4,150
Elgin, Ill	777	Ft. Marcy, N. M	6,846
Winnebago, Ill	900	Salt Lake City, Utah	4,320
Milwaukee, Wis	591	Hot Springs, Nev	4,098
Baraboo, Wis	800	Sacramento, Cal	82

MISCELLANEOUS.

Rates of Postage.

POSTAL CARDS, 1 cent each, go without further charge to all parts of the United States and Canada. Cards for foreign countries (within the Postal Union), 2 cents each.

ALL LETTERS, to all parts of the United States and Canada. 2 cents each.

LOCAL, OR "DROP" LETTERS, that is, for the city or town where deposited, 2 cents where the carrier system is adopted, and 1 cent where there is no carrier system.

FIRST CLASS.—Letters and all other written matter, whether sealed or unsealed, and all other matter sealed, nailed, sewed, tied, or fastened in any manner so that it cannot be easily examined, 2 cents per half ounce or fraction thereof. Postal Cards, 1 cent each. Postal cards are unmailable with any writing or printing on the address side, except the direction, or with anything pasted upon or attached to them.

SECOND CLASS.—Only for publishers and news agents; 2 cents per pound.

THIRD CLASS.—Printed matter, in unsealed wrappers only (all matter inclosed in notched envelopes must pay letter rates), 1 cent for each two ounces or fraction thereof, which must be fully prepaid. This includes books, circulars, chromos, engravings, handbills, lithographs, magazines, music, newspapers, pamphlets, proof-sheets and manuscript accompanying the same, reproductions by the electric pen, hekotograph, metallograph, papyrograph, and, in short, any reproduction upon paper by any process except handwriting and the copying press. Limit of weight 4 pounds, except for a single book, which may weigh more.

FOURTH CLASS.—All mailable matter not included in the three preceding classes, which is so prepared for mailing as to be easily withdrawn from the wrapping and examined. Rate, 1 cent per ounce or fraction thereof. Limit of weight, 4 pounds. Full prepayment compulsory.

The following are the postal rates with Europe. The rates for letters are, for the half ounce or fraction thereof, and those for newspapers for 2 ounces or fraction thereof.

To Great Britain and Ireland, France, Spain, all parts of Germany, including Austria, Denmark, Switzerland, Italy, Russia, Norway, Sweden, Turkey (European and Asiatic), Egypt, letters 5 cents; newspapers 1 cent for each 2 ounces or fraction thereof.

To Australia, letters, via San Francisco, (except to New South Wales, Victoria and Queensland), 5 cents; via Brindisi, 15 cents; newspapers, via San Francisco, 2 cents; via Brindisi, 4 cents. China, letters, via San Francisco, 5 cents; via Brindisi, 13 cents; 4 cents for each paper not weighing over 4 ounces. British India, Italian mail, letters 5 cents, newspapers 1 cent for 2 ounces. Japan, letters, via San Francisco, 5 cents; newspapers, 1 cent for 2 ounces.

MONEY ORDERS.—Money Order Post Offices are established in all the large cities and towns, at which orders can be obtained upon any other office, at the following rates of commission:

On Orders not exceeding $15	10 cents.
Over $15 " " $30	15 cents.
" $30 " " $40	20 cents.
" $40 " " $50	25 cents.

When a larger sum than $50 is required, additional orders to make it up must be obtained.

POSTAL NOTES.—Payable to bearer for any sum from 1 cent to $4.99, inclusive, may be obtained at any money-order post office in the United States; payable at any money-order office in the United States which its sender may designate. The fee for a postal note is 3 cents.

Associations, Convention Dates, Etc.

American Railway Master Mechanics' Association. Annual Convention, Long Branch, N. J., June 18, 1884. Reuben Wells, Louisville, Ky., President; J. H. Setchell, Cincinnati, Ohio, Secretary.

Master Car-Builders' Association. Annual Convention, Saratoga Springs, N. Y., June 10, 1884. Leander Garey, New York, President; M. N. Forney, 71 Broadway, N. Y., Secretary.

Association of American Railroad Superintendents. Semi-Annual Convention, Washington, D. C., October 22, 1884. P. S. O'Rourke, Fort Wayne, Ind., President; Waterman Stone, Providence, R. I., Secretary.

National Association of General Passenger Agents. Meets at Cincinnati, March 18, 1884. A. J. Smith, Cleveland, O., Secretary.

National Association of General Baggage Agents. Meets the third Wednesday in January, 1885, at Boston. M. B. Starring, Chicago, Secretary.

American Street Railway Association. Meets in New York City, October 15, 1884. William H. Hazzard, Brooklyn, N. Y., President; J. W. Richardson, Brooklyn, N. Y., Secretary and Treasurer.

General Time Convention, Grand Hotel, Cincinnati, April 9, 1884.

Southern Railway Time Convention, 46 Bond street, New York, April 16, 1884.

Car Accountants' Association. Meets at Richmond, Va., May 20, 1884.

Master Car-Painters' Association. Meets at Boston, September 3, 1884. John Rattenbury, C., R., I. & P. Railway, Chicago, Ill., President; R. McKeon, Kent, O., Secretary.

Association of Railway Superintendents of the Northwest. S. R. Stinson, President; T. E. Clarke, Secretary and Treasurer. Meets first Friday of each calendar month at Union Depot, St. Paul, Minn.

Association of Railway Telegraph Superintendents. W. K. Morley, Bloomington, Ill., President; P. W. Drew, Chicago, Secretary. Meets in Boston, Mass., June 17, 1884.

Railway Employes' Mutual Benefit Association. C. L. Rising, Chicago, President; C. F. Resseguie, Chicago, Secretary. Meets in Chicago, June 11, 1884.

Yardmasters' Mutual Benefit Association of the United States and Canadas. Joseph Sanger, Indianapolis, Ind., Secretary and Treasurer. Annual meeting, second Wednesday in June, 1884, in Atlanta, Ga.

Cincinnati Railway Club. Ortiz Building, Fourth and Sycamore streets, Cincinnati, O. President, Colonel Orland Smith; Secretary, A H. Caffee.

State Railroad Commissioners.

Alabama—W. L. Bragg, President; James Crooks and Charles P. Ball, associates; Clerk, James K. Jackson; office, Montgomery.

Arkansas—The Board of Railroad Commissioners is composed of the following State officers: Governor, J. H. Berry; Auditor, A. W. Files; Secretary of State, Jacob Frolich (ex-officio Secretary of the Board).

California—G. J. Carpenter, Chairman, Placerville, Cal.; W. P. Humphreys, San Francisco, Cal.; W. W. Foote, Oakland, Cal.; Secretary, W. R. Andrews, Oakland; office of board, 14 Dupont street, San Francisco, Cal.

Connecticut—George M. Woodruff, of Litchfield; John W. Bacon, of Danbury, and William H. Hayward, of Colchester; Clerk, George T. Utley, office, Hartford.

Georgia—James M. Smith, Chairman; Campbell Wallace, L. N. Trammell; Secretary, A. C. Briscoe; office, Atlanta.

Illinois—William N. Brainerd, Chicago; E. C. Lewis, Deer Lodge; Charles T. Stratton, Mt. Vernon; Secretary, N. D. Munson; office, Springfield.

Iowa—Peter A. Dey, Iowa City; A. R. Anderson, Sidney; L. S. Coffin, Fort Dodge; Secretary, Erastus G. Morgan; office, Des Moines.

Kansas—Almerin Gillett, Jas. Humphrey, L. L. Turner; Secretary, E. J. Turner; office, Topeka.

Kentucky—D. Howard Smith, Louisville; W. B. Machen, Eddyville; and W. M. Beckner, Winchester; Clerk, C. E. Kincaid; office, Frankfort.

Maine—A. E. Wildes, Bangor; John F. Anderson, Portland; Charles J. Talbot, Augusta; office, Augusta.

Massachusetts—Thomas Russell, Chairman, Boston; Clemens Herschel, Holyoke; Edward W. Kinsley, Boston; Clerk, William A Crafts; Supervisor of Railroad Accounts, Frederick E. Jones; office, Boston.

Michigan—Wm. P. Innes; Deputy, Wyllys C. Ransom; office, Lansing.

Minnesota—Gen. J. H. Baker, St. Paul; Clerk, E. S. Warner; office, St. Paul.

Missouri—James Harding, Jefferson City; A M. Sevier, Chairman, Neosho, Mo., and George C. Pratt, Columbia, Mo; Clerk, H. H. Gregg; office, Jefferson City.

New Hampshire—J. E. French, Chairman; H. N. Smith and E. J. Tenbey, Chairman resides at Moultonboro.

New Jersey—Abraham M. Reynolds; office, Trenton.

New York—Wm. E. Rogers, Garrison; John D. Kernan, Utica; John O'Donnell, Lowville; Secretary, Wm. C. Hudson, Brooklyn; office, Albany, N. Y.

Ohio—Hylas Sabine; Clerk, H. L. Wilgus; office, Columbus.

Pennsylvania—Secretary of Internal Affairs, J. Simpson Africa; Deputy Secretary, J. W. Greenland; office, Harrisburg.

Rhode Island—Henry Staples; office, Providence.

South Carolina—M. L. Bonham, Columbia; L. J. Walker, Charleston; D'Arcy P. Duncan, Union; Secretary, M. I. Bartlett; office, Columbia.

Tennessee—John W. Sawyer, McMinnville; J. A. Turley, Cog Hill; G. W. Gordon, Memphis; Secretary, G. W. Gordon; office, Nashville.

Texas—State Engineer, Jas. H. Britton; Sec'y., Chas. Meyer; office, Austin, Tex.

Vermont—Wayne Bailey; office, Rutland.

Virginia—Colonel Geo. A. Martin; Clerk, A. E. Kellam; office, Richmond.

Wisconsin—N. P. Haugen; Secretary, James H. Foster; office, Madison.

THE

SUPERIOR TO ALL OTHERS.

Has the Strongest and Most Perfectly Formed Head.

HOLDS BETTER IN SOFT WOOD TIES THAN ANY OTHER SPIKE.

THE CHEAPEST SPIKE.

425 5 1-2x9-16 FOWLR SPIKES in every 200-lb. keg, as against **375 ORDINARY MACHINE-HEADED SPIKE,** of same size shaft and at **NO HIGHER PRICE PER POUND.** *Send for Sample.*

THE FOWLER ROLLING MILL CO.,

Sole Proprietors and Manufacturers,

142 Dearborn Street, - - - - - - CHICAGO.

Tons of Rails Required for One Mile of Single Track.

Rule.—To find the number of tons (of 2,240 lbs.) of rail to the mile, divide the weight per yard by 7, and multiply it by 11, thus: for 56 lb. rail divide 56 by 7, equal 8, multiplied by 11, equal 88 tons, for one mile of single track.

Weight of rail per yard.	Tons per mile.	Weight of rail per yard.	Tons per mile.
12 lbs.	12 tons, 920 lbs.	45 lbs.	70 tons, 1600 lbs.
14 "	22 "	48 "	75 " 960 "
16 "	25 " 320 "	50 "	78 " 1280 "
18 "	28 " 640 "	52 "	81 " 1600 "
20 "	31 " 960 "	56 "	88 "
22 "	34 " 1280 "	57 "	89 " 1280 "
25 "	39 " 640 "	60 "	94 " 640 "
26 "	40 " 1920 "	62 "	97 " 690 "
27 "	42 " 960 "	64 "	100 " 1280 "
28 "	44 "	65 "	102 " 320 "
30 "	47 " 320 "	68 "	106 " 1920 "
33 "	51 " 1920 "	70 "	110 "
35 "	55 "	72 "	113 " 320 "
40 "	62 " 1920 "	76 "	119 " 960 "

Length of Rail and Number of Chairs, Joints, Splices and Bolts for Each Mile of Track.

Length of Rail.	No. of Rails, Chairs or Joints.	No. of Splices.	No. of Bolts.
18 feet.	584	1,168	2,336
20 "	528	1,056	2,112
21 "	503	1,006	2,012
22 "	480	960	1,920
24 "	440	880	1,760
25 "	422	844	1,688
26 "	406	812	1,624
27 "	391	782	1,564
28 "	377	754	1,508
30 "	352	704	1,408

Weight of Spikes and Number to Keg.

Size in inches. Length.		Side.	No. per keg of 150 lbs.	No. per lb.	Size in inches. Length.		Side.	No. per keg of 150 lbs.	No. per lb.
4½	×	7/16	526	3·5	5½	×	½	350	2·33
4½	×	½	400	2·66	5½	×	9/16	289	1·93
5	×	⅜	705	4·7	5½	×	⅝	218	1·46
5	×	7/16	488	3·25	6	×	½	310	2·07
5	×	½	390	2·6	6	×	9/16	262	1·75
5	×	9/16	295	1·97	6	×	⅝	196	1·30
5	×	⅝	257	1·71					

—*Trautwine.*

Number of Cross-Ties for Each Mile of Track.

Center to Center.	No. of Ties.	Center to Center.	No. of Ties.
1½ feet.	3,520	2½ feet.	2,113
1¾ "	3,017	2¾ "	1,921
2 "	2,640	3 "	1,761
2¼ "	2,438		

Railroad Spikes.

Size. Length, Inches.	Thick. Inches.	No. in 100 lbs.	Size. Length, Inches.	Thick. Inches.	No. in 100 lbs.
4½	7/16	351	5½	½	237
4½	½	267	5½	9/16	193
5	⅜	473	5½	⅝	146
5	7/16	326	6	½	207
5	½	260	6	9/16	175
5	9/16	197	6	⅝	131
5	⅝	172			

5½ inch by 9-16 is size most commonly used.

THE USE OF THE
McLeod Automatic Signal

— WILL —

Prevent Railroad Accidents and Save Life and Property.

"McLeod's Automatic Signal is an ingenious and inexpensive device by which the coming of a train is announced far in advance, both by visible and audible signals.—*R. R. Com. Report.*

This invention provides a Block, Station, Crossing, Junction, Curve and Switch Signals, Revolving Lantern and Gate. It has been thoroughly tested (three winters) on N. Y. & N. E. R. R., at Bird and Dudley streets, and proved a complete success, to the expressed satisfaction of all railroad men and experts who examined it. The Company can fill orders to place it on any railroad, and invite correspondence from all parts relative thereto.

THE McLEOD AUTOMATIC SIGNAL CO., Boston, Mass.

THOS. R. SHARP, Vice Pres. and Gen'l Manager, NEW YORK.

J. S. McLEOD, Superintendent, BOSTON.

RAILROAD MEN CAN TAKE PHOTOGRAPHS

— OF —

Rolling Stock, Depots, Round Houses,

Beautiful views along the line of the road; in fact, can use the

Compact Camera for Amateurs

for pleasure or profit, and get a deal of satisfaction from it.

SEND FOR DESCRIPTIVE CIRCULAR.

G. E. PEARSALL.

298 Fulton St., BROOKLYN, N. Y.

Specimen views made with this camera mailed on receipt of 12 cents in stamps.

THE CAMERON STEAM PUMP.

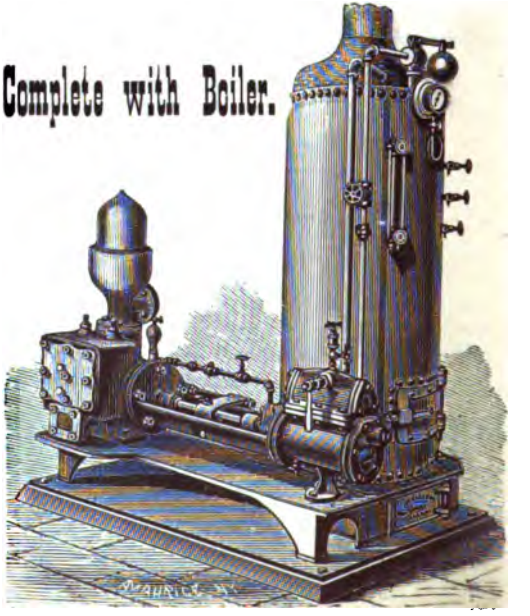
SEND FOR ILLUSTRATED CATALOGUE.

THE

A. S. Cameron Steam Pump Works,

Foot of East 23rd Street, New York.

Complete with Boiler.



Capacity of Engine on Various Grades.

Table of approximate greatest weight of train (exclusive of engine and tender) which a good locomotive, weighing 27 tons or 60,480 lbs. (all of it on the drivers), can take up different straight grades, at a moderate speed; say 8 to 12 miles per hour, when all is in good order; in which case the adhesion will be 1/5 of the weight on the drivers, or 448 lbs. per ton. For other engines, the weight of train will be nearly in proportion to the weight on their drivers.

Grade in feet per mile.	Tons.	Grade in feet per mile.	Tons.	Grade in feet per mile.	Tons.	Grade in feet per mile.	Tons.
Level.	1,458	16	769	60	315	160	113
1	1,383	18	725	65	294	170†	105
2	1,315	20	686	70	275	180	98
3	1,253	22	650	75	258	190	91
4	1,197	24	617	80	242	200	84
5	1,144	26	587	85	228	225	71
6	1,096	28	561	90	216	250	60
7	1,052	30	536	95	204	275	51
8	1,012	32	513	100	194	300	44
9	974	35	482	110	175	350	32
10	939	40	437	120	159	400	22
11	905	45	400	130	146	450	15
12	875	50	367	140	134	500	9
14	819	55	340	150	123	528	7

In practice, trains must not, as a general rule, weigh more than ½ to ⅔ of those in the table. This reduction is necessary in order to have the trains under more complete control; to admit of greater speed in case of detention; to allow for curves, slippery rails, head winds, etc.

†Baldwin's 8-driver engines of 35 tons, all on the drivers, draw 40 empty coal cars, weighing 100 tons, up a continuous grade of 175 feet per mile for 8½ miles, *with many curves and reversed curves of from 450 to 600 feet radius*, at 8 miles an hour, as an every-day operation. On the Pennsylvania Central, engines of 29 tons, all of it on 8 drivers, take 200 tons of cars and freight up a continuous grade of 95 feet per mile for 9¾ miles. The passenger engines take up 3 loaded 8-wheel cars (about 60 tons) at 24 miles per hour.—*Trautwine.*

Cubic Feet Contained in Cross-ties of Different Sizes.

Dimensions.				Dimensions.				Dimensions.			
Ft.	Ins.	Ins.	Cub. ft.	Ft.	Ins.	Ins.	Cub. ft.	Ft.	Ins.	Ins.	Cub. ft
8 by	8 by	6	2·667	8½ by	8 by	6	2·833	9 by	8 by	6	3·000
8	9	6	3·000	8½	9	6	3·188	9	9	6	3·375
8	9	7	3·500	8½	9	7	3·719	9	9	7	3·938
8	10	6	3·333	8½	10	6	3·542	9	10	6	3·750
8	10	7	3·889	8½	10	7	4·132	9	10	7	4·375
8	10	8	4·444	8½	10	8	4·722	9	10	8	5·000
8	12	8	5·333	8½	10	8	5·667	9	12	8	6·000

Table of Cubic Yards of Ballast per Mile of Road.

Side-slope of the ballast 1 to 1. Width in clear between tracks of double-track road 6 feet.

Depth in inches.	Top Width, Single Track.			Top Width, Double Track.		
	10 Ft.	11 Ft.	12 Ft.	21 Ft.	22 Ft.	23 Ft.
	Cubic Yds.	Cubic Yds.	Cubic Yds.	Cubic Yds.	Cubic Yds.	Cub Yds.
12	2,152	2,347	2,543	4,303	4,499	4,695
18	3,374	3,567	3,960	6,000	6,894	7,188
24	4,694	5,085	5,474	8,996	9,388	9,780
30	6,111	6,600	7,087	11,490	11,980	12,476

Bushel Measure by Weight.

Bushel of	*Weight, lbs.*	*Bushel of*	*Weight, lbs.*
Wheat	60	Castor beans	46
Shelled corn	56	Clover seed	60
Corn in the ear	70	Timothy seed	45
Peas	60	Flax seed	56
Rye	56	Hemp seed	44
Oats	32	Blue grass seed	14
Barley	47	Buckwheat	52
Irish potatoes	60	Dried peaches	33
Sweet potatoes	55	Dried apples	24
White beans	60	Onions	54
Salt	50	Plastering hair	8
Stone coal	80	Unslacked lime	80
Malt	38	Corn meal	48
Bran	20	Fine salt	55
Turnips	55	Ground peas	24

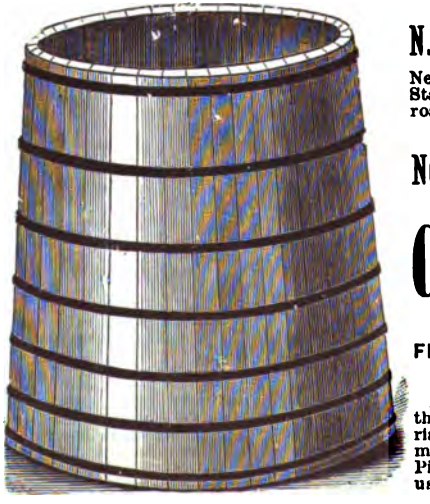
Strength of Manila Rope.

Diam. inches.	Circ. ins.	Weight per ft. Lbs.	Breaking load. Tons.	Breaking load. Lbs.	Diam. inches.	Circ. ins.	Weight per ft. Lbs.	Break'g load. Tons.	Break'g load. Lbs.
·239	¾	·019	·25	560	1·91	6	1·19	11·4	25,536
·318	1	·033	·35	784	2·07	6½	1·39	13·0	29,120
·477	1½	·074	·70	1,568	2·23	7	1·62	14·6	32,704
·636	2	·132	1·21	2,733	2·39	7½	1·86	16·2	36,288
·795	2½	·206	1·91	4,278	2·55	8	2·11	17·8	39,872
·955	3	·297	2·73	6,115	2·86	9	2·67	21·0	47,040
1·11	3½	·404	3·81	8,534	3·18	10	3·30	24·2	54,208
1·27	4	·528	5·16	11,558	3·50	11	3·99	27·4	61,376
1·43	4½	·668	6·60	14,784	3·82	12	4·75	30·6	68,544
1·59	5	·825	8·20	18,368	4·14	13	5·58	33·8	75,712
1·75	5½	·998	9·80	21,952	4·45	14	6·47	37·0	82,880

ESTABLISHED 1840.

GEORGE J. BURKHARDT'S SONS,

(Successors to GEO. J. BURKHARDT & CO.)



FACTORY:

N. Broad, below Cambria St

Near Germantown Junction Station, Pennsylvania Railroad.

Down Town Office:

No. 215 Chestnut Street,

PHILADELPHIA, PA.

CEDAR TANKS

FOR WATER STATIONS,

FROM 1,000 TO 100,000

GALLONS CAPACITY.

A long experience has shown that CEDAR is the best material for Water Tanks, being more than twice as durable as Pine, and can be furnished by us at about the same cost.

Contents of Tanks of Different Diameters.

Diameter.	Depth.	Gallons.	Cu. Ft.	Diameter.	Depth.	Gallons.	Cu.ft.
Feet.	Feet.			Feet.	Feet.		
12	8	6,767	905	24	12	40,607	5,429
14	9	10,363	1,385	26	13	51,628	6,902
16	9	13,533	1,810	28	14	64,481	8,621
18	10	19,034	2,545	30	15	79,310	10,603
20	10	23,499	3,142	32	16	96,253	12,868
22	11	31,277	4,181	34	17	115,451	15,435

Number of Brick per Square Foot of Wall.

Allowing for the usual waste in cutting bricks to fit corners, jambs, etc., the average number of 8¼×4×2 required per square foot of wall is as follows:

Thickness of Wall.			No. of Bricks.
8¼ inches,	or 1	brick	14
12¾ "	or 1½	"	21
17 "	or 2	"	28
21½ "	or 2½	"	35
25¾ "	or 3	"	42

Rise per Mile of Grades.

Rise per mile, and Resistance due to Gravity alone.

Gradient of 1 in	20	25	30	35	40	45	50	60	70	80	90	100
Rise in feet per mile	264	211	176	151	132	117	105	88	75	66	58	52
Resistance in lbs. per ton of train	112	89½	74½	64	56	50	45	38	32	28	25	22

Resistance due to gravity on any incline in lbs.

$$\text{per ton of train} = \frac{2240}{\text{rate of gradient}}.$$

Force of Wind.

Miles per hour.	Feet per minute.	Feet per second	Force in lbs. per sq. ft.	Description.
1	88	1·47	·005	Hardly perceptible.
2	176	2·93	·020	Just perceptible.
3	264	4·4	·044	
4	352	5·87	·079	Gentle breeze.
5	440	7·33	0·123	
10	880	14·67	0·492	Pleasant breeze
15	1320	22·	1·107	
20	1760	29·3	1·970	Brisk gale.
25	2200	36·6	3·067	
30	2640	44·	4·429	High wind.
35	3080	51·3	6·027	
40	3520	58·6	7·870	Very high wind.
45	3960	66·0	9·900	
50	4400	73·3	12·304	Storm.
60	5280	88·0	17·733	Great storm.
70	6160	102·7	24·153	
80	7040	117·3	31·490	Hurricane.
100	8800	146·6	49·200	

TO FIND THE FORCE OF THE WIND.

V = Velocity of wind in feet per second.
P = Pressure in lbs. per square foot.
*x = Angle of incidence when the surface is oblique.
$P = 0{\cdot}002288\ V^2$
$P = 0{\cdot}0023\ V^2$, approximately.
$P = {\cdot}0023\ V^2 \times \text{Sin. } x$.

*By the angle of incidence is meant the angle of the direction of the wind with the plane of the surface.

Number of Panes of Glass per Box.

Window glass is sold by the box; and whatever may be the size of the panes, a box contains as nearly 50 square feet of glass as the dimensions of the panes will admit of. In the following table, those numbers which have no + after them denote that they amount to *precisely* 50 square feet; while in the others a part of a pane would have to be added to make up the 50 feet. Ordinary window glass of all the sizes in the table is about one-sixteenth of an inch thick; and this is the thickness supposed to be intended when a greater one is not specified. *Double-thick* glass is nearly ⅛ inch, and its price is 50 per cent. more than the *single* thick.

Size in inches.	Panes to a box.	Size in inches.	Panes to a box.	Size in inches.	Panes to a box.	Size in inches.	Panes to box.
6× 8	150	11×12	54+	14×22	23+	18×28	14+
6×10	120	11×14	46+	14×24	21+	18×30	13+
6×12	100	11×16	40+	14×26	19+	18×33	12+
7× 8	128+	11×18	36+	14×28	18+	18×36	11+
7×10	102+	11×20	32+	15×16	30	20×24	15
7×12	85+	11×22	29+	15×18	26+	20×26	13+
7×14	73+	12×14	42+	15×20	24	20×28	12+
8×10	90	12×16	37+	15×22	21+	20×30	12
8×12	75	12×18	33+	15×24	20	20×33	10+
8×14	64+	12×20	30	15×26	18+	20×36	10
8×16	56+	12×22	27+	15×28	17+	20×40	9
9×10	80	12×24	25+	15×30	16	22×26	12+
9×12	66+	13×14	39+	16×18	25	22×30	10+
9×14	57+	13×16	34+	16×20	22+	22×36	9+
9×16	50	13×18	30+	16×22	20+	22×40	8+
9×18	44+	13×20	27+	16×24	18+	22×44	7+
10×12	60	13×22	25+	16×28	16+	24×27	11+
10×14	51+	13×24	23+	16×32	14+	24×30	10
10×15	48	13×26	21+	18×20	20	24×34	8+
10×16	45	14×16	32+	18×22	18+	24×38	7+
10×18	40	14×18	28+	18×24	16+	24×42	7+
10×20	36	14×20	25+	18×26	15+	24×48	6+

Conductivity to Electricity.

In the following list each substance named conducts better than that which precedes it; the first being the best insulator, the last the best conductor:

1. Dry air.
2. Paraffine.
3. Hard rubber.
4. Shellac.
5. India rubber.
6. Gutta percha.
7. Sulphur.
8. Glass.
9. Silk.
10. Dry paper.
11. Porcelain.
12. Dry wood.
13. Dry ice.
14. Water.
15. Saline solutions.
16. Acids.
17. Charcoal or coke.
18. Mercury.
19. Lead.
20. Tin.
21. Iron.
22. Platinum.
23. Zinc.
24. Gold.
25. Copper.
26. Silver.

When a wire of small resistance and an insulator of great resistance are employed upon a line, the highest excellence is secured, since the lower the resistance in the former the better is the transmission, and the higher the resistance in the latter, the less the waste of the current.

Sizes of Drawing Paper.

	ft.	in.		ft.	in.		ft.	in.		ft.	in.
Antiquarian	4	4	×	2	7	Double Crown	3	6	×	1	8
Antiquarian, extra	4	8	×	3	4	Imperial	2	6	×	1	9
Double Elephant	3	4	×	2	2	Super Royal	2	3	×	1	7
Atlas	2	9	×	2	2	Royal	2	0	×	1	7
Columbia	2	10	×	1	11	Medium	1	10	×	1	5
Elephant	2	3¾	×	1	10½	Demy	1	8	×	1	3

Measures of Timber.

100 superficial feet of planking = 1 square.
120 deals = 1 hundred.
50 cube feet of squared timber = 1 load.
600 superficial feet of inch planking = 1 load.
Boards 7 inches wide = battens.
" 9 " = deals.
" 12 " = planks.

Ready Reckoner.

Showing the number of feet, board measure, contained in a piece of joist, scantling or timber of the sizes given.

Size in inches.	Length in Feet of Joists, Scantling and Timber.												
	12	*14*	*16*	*18*	*20*	*22*	*24*	*26*	*28*	*30*	*42*	*44*	*45*
2× 4	8	9	11	12	13	15	16	17	19	20	28	29	30
2× 6	12	14	16	18	20	22	24	26	28	30	42	44	45
2× 8	16	19	21	24	27	29	32	35	37	40	53	58	60
2×10	20	23	27	30	33	37	40	43	47	50	70	74	75
2×12	24	28	32	36	40	44	48	52	56	60	84	88	90
3× 4	12	14	16	18	20	22	24	26	28	30	42	44	45
3× 6	18	21	24	27	30	33	36	39	42	45	63	66	68
3× 8	24	28	32	36	40	44	48	52	56	60	84	88	90
3×10	30	35	40	45	50	55	60	65	70	75	105	110	113
3×12	36	42	48	54	60	66	72	78	84	90	126	132	135
4× 4	16	19	21	24	27	29	32	35	37	40	56	58	60
4× 6	24	28	32	36	40	44	48	52	56	60	84	88	90
4× 8	32	37	43	48	53	59	64	69	75	80	112	118	120
4×10	40	47	53	60	67	73	80	87	93	100	140	146	150
4×12	48	56	64	72	80	88	96	104	112	120	168	176	180
6× 6	36	42	48	54	60	66	72	78	84	90	126	132	130
6× 8	48	56	64	72	80	88	96	104	112	120	168	176	180
6×10	60	70	80	90	100	110	120	130	140	150	210	220	225
6×12	72	84	96	108	120	132	144	156	168	180	250	265	270
8× 8	64	75	85	96	107	117	128	139	149	160	224	234	240
8×10	80	93	107	120	133	147	160	173	187	200	280	294	300
8×12	96	112	128	144	160	176	192	208	224	240	336	352	360
10×10	100	117	133	150	167	183	200	217	233	250	350	366	375
10×12	120	140	160	180	200	220	240	260	280	300	420	440	450
12×12	144	168	192	216	240	264	288	312	336	360	504	528	540
12×14	168	196	224	252	280	308	336	364	392	420	588	616	630
14×14	196	229	261	294	327	359	392	425	457	490	686	716	735

FENCE BOARD TABLE.

Showing the number of feet, board measure, required to build a fence from one to five boards high, ¼ to 1 mile in length.

No. of Boards High.	1 Mile.	½ Mile.	¼ Mile.
One	2,640 feet.	1,320 feet.	660 feet.
Two	5,280 "	2,640 "	1,320 "
Three	7,920 "	3,960 "	1,980 "
Four	10,560 "	5,280 "	2,640 "
Five	13,200 "	6,600 "	3,300 "

Total Heat of Combustion of Various Fuels.

SORT OF FUEL.	Equivalent in pure carbon.	Evaporative power in lbs. water from 212° Fah.	Total heat of combustion in lbs. water heated 1° Fah.
Charcoal	0·93	14·00	13,500
Charred peat	0·80	12·00	11,600
Coke—good	0·94	14·00	13,620
" mean	0·88	13·20	12,760
" bad	0·82	12·30	11,890
Coal.			
Anthracite	1·05	15·75	15,225
Hard bituminous—hardest	1·06	15·90	15,370
" " softest.	0·95	14·25	13,775
Coking coal	1·07	16·00	15,837
Canning coal	1·04	15·60	15,080
Long flaming splint coal	0·91	13·65	13,193
Lignite	0·81	12·15	11,745
Peat.			
Perfectly air-dry	0·66	10·00	9,660
Containing 25 per ct. water		7·25	7,000
Wood.			
Perfectly air-dry	0·50	7·50	7,245
Containing 20 per ct. water		5·80	5,600

Properties of Metals.

METALS.	Weight of a cubic inch in lbs.	Specific gravity.	Weight of a cubic foot in lbs.	Tenacity in lbs. per square inch.	Crushing force in lbs. per square inch.	Melting point. Deg. Fah.	Expansion between 32° and 212°.	Conducting power.	Specific heat.
Aluminum	·092	2·56	160	.....	.....	*1,800	.....	.....	.....
Antimony, cast	·242	6·7	418	1,066	.....	810	·0011	....	·0507
Bismuth	·35	9·82	615	3,250	.....	497	·0014	....	·0288
Brass, cast	·3	8·4	525	17,978	10,300	1,800	·002	.....	.....
Brass wire	....	8·5	531	49,000	.....	.....	.....	.....	.....
Copper, cast	·32	8·89	555	19,072	11,700	1,996	·0017	....	·0949
Copper, sheet	....	8·95	559	33,000	.....	.....	.....	898	.....
Copper, wire	....	9·	562	61,000	.....	.....	.....	.....	.....
Gold	·7	19·25	1203	20,400	.....	2,016	·0016	1000	·0298
Gun metal	·3	8·4	525	36,000	.....	.....	.....	.....	.....
Iron, wrought bar	·28	7·7	481	60,000	33,000	.....	·0012	347	·1100
Iron, Swedish	....	7·6	475	70,000	.....	.....	.....	.....	.....
Iron, wire	....	.....	....	85,000	.....	.....	.....	.....	.....
Iron, cast	·26	7·18	448	19,000	92,000	2,786	·0011	....	.....
Lead, cast	·41	11·35	709	1,824	7,000	612	·0028	180	·0293
Lead, sheet	....	.....	....	3,328	.....	.....	.....	.....	.....
Mercury	·49	13·56	847	.....	.....	—39	·016	....	·0330
Silver	·38	10·47	654	41,000	.....	1,873	·0019	973	·0557
Steel	·282	7·8	487	120,000	.....	.....	·0011	.....	.....
Steel, puddled	....	7·78	485	80,000	.....	.....	.....	.....	.....
Tin	·263	7·29	455	5,000	15,000	442	·0021	304	·0514
Zinc	·253	7·	437	8,000	.....	773	·0029	363	·0927

*Approximate; no well authenticated experiments on aluminum.—*Molesworth.*

Properties of Various Woods and Other Materials.

TIMBER.	Specific gravity.	Weight in lbs. per cub. foot.	Tenacity in lbs. per sq. foot.	Crushing force in lbs per sq. in.
Ash	·8	50	17·200	9·000
Beech	·69	43	11·000	9·000
Birch	·71	44	15·000	5·500
Cedar	·48	31	11·000	5·600
Deal, Christiana	·7	44	12·000	6·000
Elm	·6	37	13·000	10·000
Hornbeam	·75	47	20·000	7·000
Larch	·55	35	9·000	5·500
Memel	·6	37	.....	.....
Mahogany, Spanish	·8	50	16·000	8·000
Oak, English	·93	58	17·000	10·000
Oak, Canadian	·87	54	10·000	6·000
Pine, red	·65	41	12·000	5·800
Pine, yellow	·45	29	11·000	5·400
Teak, Moulmein	·65	41	15·000	12·000
Yew	·8	50	8·000	.....
MISCELLANEOUS.				
Asphaltum	·9	56	.....	.....
Gutta percha	·98	61	.....	.....
India rubber	·94	60	.....	.....
Ivory	1.8	112	.....	.....

FLUIDS.	Specific gravity.	Weight per cub. foot.	Boiling point.	Expansion*.
Alcohol	·8	50	173°	·11
Ether	·74	46	100°	·07
Oil	·90	56	.....	·08
Water, fresh	1·000	62·4	212°	·047
Water, sea	1·028	64·1	213°	.....

GASES.	Water 1.	Weight (air being 1.)	Weight of cu. ft. in grs.
Air	·0012	1·000	527
Carbonic acid	·0018	1·524	800
Carburetted hydrogen	·0005	·420	220
Hydrogen	·00008	·069	43
Oxygen	·00125	1·163	627

*Expansion of fluids is calculated between 32° and 212°.

Properties of Materials.

DESCRIPTION.	Specific gravity.	Weight per cub. ft. in lbs.	Tenacity. Lbs. per. sq. in.	Crushing force in lbs. per sq. inch.
Artificial Substances.				
Brick	2·0	124	290	1,500
Brickwork, in mortar	1·6	100	50	
Brickwork, in cement	1·8	112 to 94	290	1,000
Concrete, ordinary	1·9	119		
Concrete, in cement	2·2	133		
Cement, Portland	1·3	81	290	1,000
Cement, Roman	1·	63		
Glass	2·5	156	9,000	
Lime, quick	·8	50		
Mortar	1·7	106	50	
Tile	1·8	112		
Stones, Earths, Etc.				
Chalk	2·3	143	.....	400
Clay	2·	125		
Coal	1·3	82		
Coke	·8	50		
Earth, rammed	1·6	100		
Flint	2·6	163		
Gravel	1·9	120		
Granite	2·6	164	.....	8,000
Grindstone	2·1	131		
Limestone	2·5	156	.....	3,000 to 8,000
Marble	2·7	168	6,000	6,000
Sand	1·9	120		
Sandstone	2·5	156	.....	5,000
Stone, Bath	1·8	112		
Stone, Portland	2·1	131		3,700
York flag	2·3	143	.....	
Slate	2·8	175	9,000	11,000
Shingle	1·4	90		

—*Molesworth.*

Weights and Measures.

AVOIRDUPOIS WEIGHT.

The grain is the same in Troy, Apothecaries, and Avoirdupois Weights.

The standard avoirdupois pound is the weight of 27·7015 cubic inches of distilled water weighed in the air, at 35·25 degrees Fahr., barometer at 30 inches.

27·343 grains=1 drachm.

drachms.	ozs.	lbs.	qrs.	cwts.	ton.	French grammes.
1=	·0625 =	·0039=	·000139 =	·000035=	·00000174=	1·771846
16=	1 =	·0625=	·00223	= ·000558=	·000028	=28·34954
256=	16 =	1 =	·0357	= ·00893 =	·000447	=453·59
7168=	448 =	28 =	1	= ·25	= ·0125	=12700
28672=	1792 =	112 =	4	=1	= ·05	=50802
573440=	35840 =	2240 =	80	=20	=1	=1016048

A stone=14 pounds. A quintal=100 pounds.

TROY WEIGHT

For Gold, Silver and Precious Metals.

grains.	dwts.	ozs.	lb.	French. grammes.
1=	·04167=	·00208=	·0001736=	·0648
24=1	= ·05	= ·004167	=	1·555
480=20	= 1	= ·0833		= 31·1035
5760=240	=12	=1		=373·242

175 lbs. Troy=144 Avoirdupois.
lbs. Avoirdupois× ·82286=lbs. Troy.
lbs. Troy ×1·2153 =lbs. Avoirdupois.

The jeweler's Carat is equal, in the United States, to 3·2 grains; in London, to 3·17 grains; in Paris, to 3·18.

Pure Gold is worth $20·67 per oz. Troy, or $18·84 per oz. Avoirdupois.
Pure Silver is worth $ 1·36 per oz. Troy, or $ 1·24 per oz. Avoirdupois.
Standard Gold is worth $18.60 per oz. Troy, or $16·96 per oz. Avoirdupois.
Standard Silver is worth $1.225 per oz. Troy, or $1·117 per oz. Avoirdupois.

Weights and Measures—Continued.

Apothecaries' Weight.

United States and British.

20 grains.....1 scruple.
3 scruples .....1 dram=60 grs.
8 drams.....1 ounce=24 scruples=480 grs.
12 ounces..... .1 pound=96 drams=288 scruples=5760 grains.

Long Measure.

ins.	feet	yards.	fath.	poles.	furl.	mile.	French meters.
1=	·083 =	·02778 =	·0139 =	·005 =	·000126 =	·0000158=	·0254
12=	1 =	·333 =	·1667 =	·0606 =	·00151 =	·0001894=	·3048
36=	3 =	1 =	·5 =	·182 =	·00454 =	·000568 =	·9144
72=	6 =	2 =	1 =	·364 =	·0091 =	·001136 =	1·8287
198=	16½=	5½=	2¾=	1 =	·025 =	·003125 =	5·0291
7920=	660 =	220 =	110 =	40 =	1 =	·125 =	201·16
63360=	5280 =	1760 =	880 =	320 =	8 =	1 =	=1609·351

A palm = 3 inches. A span = 9 inches.
A hand = 4 inches. A cable's length = 120 fathoms.

Surveying Measure (Lineal).

ins.	links.	feet.	yards	chains.	mile.	French meters.
1=	·126=	·0833=	·0278 =	·00126=	·0000158 =	·0254
7·92=1·	= ·66	= ·22	= ·01	= ·000125	=	·2012
12=1·515=	1 =	·333	= ·01515=	·000189	=	·3048
36=4 545=	3 =	1 =	·04545=	·000568	=	·9144
792=100 =	66 =	22 =	1 =	·0125	=	20·116
63360=8000 =	5280 =	1760 =	80 =	1		=1609·315

1 knot or geographical mile=6082·66 feet=1854 meters=1·152 statute mile.
1 Admiralty knot=1·1515=6080 feet.

Weights and Measures—Continued.

Dry Measure.

The Standard Bushel contains 2150·42 cubic inches, or 77·627013 pounds avoirdupois of pure water at maximum density. Its legal dimensions are 18½ inches diameter inside, 19½ inches outside, and 8 inches deep; and when heaped, the cone must be 6 inches high, making a heaped bushel equal to 1¼ struck ones.

Pints.	Quarts.	Gallons.	Pecks.	Bushels.	Cubic Inches.
2 =	1 =	·250 =	·125 =	·0315 =	67·2
8 =	4 =	1 =	·5 =	·125 =	268·8
16 =	8 =	2 =	1 =	·25 =	537·6
64 =	32 =	8 =	4 =	1 =	2150·42

Cylinders of the following sizes are closely approximating measures:

	Height, inches.	Diameter, inches.		Height, inches.	Diameter, inches.
Gill.....	3	1¾	Quart.....	6	3½
One-half pint....	3⅝	2¼	Gallon.....	6	7
Pint	3	3½	Ten gallons.....	15	14

A cubic foot contains 7½ gallons, about.

Cubic Measure.

ins.	feet.	yard.	cubic meters.
1 =	·0005788 =	·000002144 =	·000016386
1728 =	1 =	·03704 =	·028315
46656 =	27 =	1 =	·764513

A cord of wood=128 cubic feet, being 4 feet high, 4 feet wide, and 8 feet long.
40 cubic feet=a ton of shipping.

A Cubic Foot is Equal to

1728 cubic inches.
·037037 cubic yard.
·803564 U. S. struck bushel of 2150·42 cubic inches.
3·21426 U. S. pecks.
7·48052 U. S. liquid galls. of 231 cub. in.
6·42851 U. S. dry galls.
29·92208 U. S. liquid quarts.
25·71405 U. S. dry quarts.
59·84416 U. S. liquid pints.
51·42809 U. S. dry pints.
239·37662 U. S. gills.
·26667 flour barrel of 3 struck bushels.
·23748 U. S. liquid barrel of 31½ galls.

Weights and Measures—Continued.

Square Measure.

ins.	feet.	yards.	perches.	roods.	acre.	square meters.
1=	·00694	=·000772	=0000255	=·00000064	=·000000159	=·000645
144=	1	=·111	=00367	=·0000918	=·000023	=·0929
1296=	9	= 1	=·0331	=·000826	=·0002062	=·8361
39204=	272¼	= 30¼	= 1	=·025	=·00625	=·25·292
1568160=	10890	=1210	= 40	= 1	=·25	= 1011·7
6272640=	43560	=4840	= 160	= 4	= 1	= 4046·7

100 square feet = 1 square.
1 chain wide = 8 acres per mile.
10 square chains = 1 acre.
1 hectare = 2·471143 acres.
1 square mile = 27878400 sq. feet. = 3097600 sq. yards. = 640 acres.
Acres × ·0015625 = square miles.
Sq. yards × ·000000323 = sq. miles.

A section of land is 1 mile square, and contains 640 acres.
A square acre is 208·71 feet at each side.
" ½ " is 147·58 " "
" ¼ " is 104·355 " "
A circular " is 235·504 feet in diameter.
" ½ " is 166·527 " "
" ¼ " is 117·752 " "

Liquid Measure.

The standard gallon measures 231 cubic inches, or 8·33888 lbs. avoirdupois of pure water, at about 39·85 deg. Fahr., the barometer at 30 inches.

gills.							
4=	1 pint.						
8=	2=	1 quart.					
32=	8=	4=	1 gallon.				
1344=	336=	168=	42=1 tierce.				
2016=	504=	252=	63=1½=1 hogshead.				
2488=	672=	336=	84=2	=1½=1 puncheon.			
4032=	1008=	504=	126=3	=2	=1½=1 pipe.		
8064=	2016=	1008=	252=6	=4	=3	=2=1 ton.	

SPECIAL CONTRIBUTORS TO

THE RAILWAY REVIEW in 1884.

During the year, the Review will publish articles written especially for it by the following gentlemen:

ALBERT FINK, C. E., Commissioner of the Trunk lines and Chairman of the Joint Executive Committee, ex-President American Society of Civil Engineers.
Hon. CHAS. FRANCIS ADAMS, Jr., Arbitrator of the Trunk Lines, ex-Railroad Commissioner of the State of Massachusetts, etc.
GEO. R. BLANCHARD, Esq., Vice President New York, Lake Erie & Western Railroad.
Hon. THOS. M. COOLEY, Justice of the Supreme Court of Michigan, Professor of Constitutional Law and Political Science, University of Michigan.
OCTAVE CHANUTE, C. E., Consulting Engineer New York, Lake & Western Railroad, Past Vice President American Society of Civil Engineers.
JOSEPH NIMMO, Jr., Chief United States Bureau of Statistics.
D. J. WHITTEMORE, C. E., Chief Engineer Chicago, Milwaukee & St. Paul Railroad, President American Society of Civil Engineers.
L. J. SEARGEANT, Esq., Traffic Manager Grand Trunk Railway.
W. P. SHINN, C. E., a practical railway manager of great experience.
H. S. HAINES, C. E., General Manager Charleston & Savannah and Savannah, Florida & Western Railroads, and Chief Engineer South Florida Railroad, etc.
F. de FUNIAK, C. E., President New Orleans Elevated Railway, and late General Manager Louisville & Nashville Railway.

This list can hardly be surpassed or improved upon. The writers are men of national reputation; the subjects chosen are of national importance, and the articles together will constitute *the most important contribution ever made to railway literature.*

This plan is a step far in advance of anything hitherto accomplished or attempted by any railway journal. THE REVIEW now stands AT THE HEAD in all that really makes a valuable railway paper.

All of the regular departments of the paper will be fully maintained as heretofore, and where possible improved upon. Readers of the REVIEW will be kept fully informed on all the important railway news of the World, and will find every topic of current interest, in connection with railways, fully treated in its editorials and other columns, by writers of the best ability. It is the paper for practical railway men, and for all who come in any way into relation with railways.

SUBSCRIPTION $4 A YEAR.

WILLARD A. SMITH, Publisher,
182-184 Dearborn Street, Chicago.

DIRECTORY OF GENERAL OFFICES OF RAILROAD COMPANIES IN THE LARGER CITIES.

GENERAL OFFICES: **ATLANTA, GA.**

Atlanta & West Point, 32 Lloyd st.
Central of Georgia, 95 West Mitchell st.
Georgia, 32 Lloyd st.
Richmond & Danville, 56 East Wall st.
Western & Atlantic, Railroad Junction, opposite Forsyth st.
Railroad Commission of Georgia, 12 East Alabama st.

GENERAL OFFICES: **BALTIMORE, MD.**

Baltimore & Ohio, Camden Station, Camden st.
Baltimore & Potomac, corner of Calvert and Centre sts.
Northern Central, corner Calvert and Center sts.
Western Maryland, corner Hillen and Exeter sts.

GENERAL OFFICES: **BOSTON.**

Atchison, Topeka & Santa Fe, 95 Milk st.
Atlantic & Pacific, 87 Milk st.
Boston & Albany, Kneeland street, near Albany.
Boston & Lowell, 92 Causeway street.
Boston & Maine, Haymarket Square.
Boston & Providence, Columbus av. opp. Eliot.
Boston, Revere Beach & Lynn, 350 Atlantic avenue.
Boston, Winthrop & Point Shirley, 7 Exchange Place.
Eastern, 110 Causeway.
Eastern Junc., Broad Sound Pier & Point Shirley, 82 Devonshire street.
Fitchburg, 152 Causeway.
Massachusetts Central, Boston & Lowell Railroad Depot.
Nantasket Beach, 7 Rowe's Wharf.
New York & New England, 244 Federal.
Mexican Central, 70 Kilby st.
Old Colony, Kneeland street, corner South.
Sonora, 95 Milk st.

RAILWAY ASSOCIATIONS:

New England Railway Clearing House Association, 92 Causeway street.
New England General Ticket and Passenger Agents' Association holds its meetings at office of The Pathfinder Railway Guide, 67 Federal street.

GENERAL OFFICES: **CHARLESTON, S. C.**

Northeastern, north side of Chapel st., east of Alexander.
Savannah & Charleston, Ashley river, west end Mill st.
South Carolina, King st., southeast cor. of Ann.

GENERAL OFFICES: **CHICAGO.**

Chicago & Alton, 210 Dearborn st.
Chicago & Atlantic, 94 Washington st.
Chicago, Burlington & Quincy, northeast corner Adams and Franklin sts.
Chicago & Eastern Illinois, 123 Dearborn st.
Chicago, Rock Island & Pacific, corner Van Buren & Sherman sts.
Chicago & Grand Trunk, 103 Clark st.
Chicago & Northwestern, 56 Kinzie st.
Chicago & Western Indiana, 94 Washington st.
Hoosac Tunnel Route 135 Randolph st.
Illinois Central, 78 Michigan avenue.
Louisville, New Albany & Chicago, 122 Randolph st.
Lake Shore & Michigan Southern, corner Van Buren and Sherman sts.
Michigan Central, foot of South Water st.
Pullman Palace Car Company, northwest corner Michigan av. and Adams st.

RAILWAY ASSOCIATIONS:

Southwestern Railway Association, J. W. Midgley, Commissioner, Lakeside Building, southwest corner Clark and Adams sts.
Chicago & St. Louis Traffic Association, S. P. Brown, Commissioner, northeast corner Adams & Franklin sts.
Joint Executive Committee, Montauk Block, 115 Monroe st.
Northwestern Traffic Association and Central Iowa Traffic Association, Lakeside Building, corner Clark and Adams sts.
Western Trunk Lines Passenger Association, 150 Monroe st.
Western Trunk Line Association, E. P. Vining, Commissioner, 103 Adams st.
Western Railroad Association, Honore Building, northwest corner Dearborn and Adams sts; President, B. F. Ayer, Chicago; General Counsel, George Payson.

GENERAL OFFICES: **CINCINNATI, O.**

Cincinnati, Hamilton & Dayton, Fifth and Hoadley sts.
Cincinnati, Georgetown & Portsmouth, 31½ West Third st.

Cincinnati, Indianapolis, St. Louis & Chicago, corner Pearl st. and Central av.
Cincinnati, New Orleans & Texas Pacific, 134 Vine st.
Cincinnati & Eastern, 134 Vine st.
Cincinnati & Northern, Court and Broadway.
Chesapeake & Ohio, 171 Walnut st.
Kentucky Central, Pike and Washington streets, Covington.
Kentucky & South Atlantic, Fourth and Walnut streets.
Marietta & Cincinnati, corner of Pearl and Plum streets.
Ohio & Mississippi, 59 West Fourth street.
The Railway Club, Ortiz Building, Fourth and Sycamore sts.

GENERAL OFFICES: CLEVELAND, O.
Cleveland, Columbus, Cincinnati & Indianapolis, Water st., cor. St. Clair.
Cleveland, Tuscarawas Valley & Wheeling, Case Building.
Cleveland & Pittsburgh, Bank st., southwest corner of St. Clair.
Lake Shore & Michigan Southern, St. Clair, corner of Seneca.
New York, Chicago & St. Louis, 85 St. Clair street.
New York, Pennsylvania & Ohio, 323 Euclid avenue.
Valley, 122 Water street.

GENERAL OFFICES: DETROIT, MICH.
Detroit, Lansing & Northern, corner Seventh and Woodbridge streets.
Detroit, Grand Haven & Milwaukee, foot of Brush street.
Michigan Central, foot of Third street.

GENERAL OFFICES: INDIANAPOLIS, IND.
Belt Railroad, crossing Indianapolis & Vincennes Railroad and Belt Railroad.
Indiana, Bloomington & Western, corner Washington and Pennsylvania sts.
Indianapolis & St. Louis, corner Washington and Pennsylvania streets.
Indianapolis & Vincennes, corner Virginia avenue and Alabama.

GENERAL OFFICES: LOUISVILLE, KY.
Jeffersonville, Madison & Indianapolis, Main, northwest corner of Third st.
Louisville & Nashville, Main, northeast corner of Second street.
Louisville, Evansville & St. Louis, 527 Third street.
Louisville, New Albany & Chicago, southwest corner of Second and Main.
Pullman Southern Car Co., 116 E. Main st.

GENERAL OFFICES: MILWAUKEE, WIS.
Chicago, Milwaukee & St. Paul, Mitchell Building.
Milwaukee, Lake Shore & Western, northeast corner of Mason and East Water streets.
Milwaukee & Northern, 107 Wisconsin street.
Wisconsin Central, 108—112 Wisconsin street.
Wisconsin & Michigan, 102 Wisconsin street.

GENERAL OFFICES: NEW ORLEANS.
Illinois Central (Southern Division), 226 St. Charles street.
Morgan's Louisiana & Texas, Magazine street, northwest corner of Natchez.
New Orleans, Spanish Fort & Lake, corner of Canal and Basin streets.
New Orleans & Northeastern, corner of Canal and Basin streets.
Pontchartrain, Elysian Fields, between Decatur and Chartres streets.

NEW YORK.

GENERAL, FINANCIAL AND TRANSFER OFFICES:
Atchison, Topeka & Santa Fe, 419 Broadway.
Atlanta & Charlotte Air Line, 48 Wall street.
Atlantic & Ohio, 18 Broadway.
Baltimore, Cincinnati & Western, 178 Broadway.
Belleville & El Dorado, 37 Wall st.
Belleville & Southern Illinois, 37 Wall street.
Bennington & Glastenbury, 64 Nassau street.
Brooklyn Elevated, 48 Wall street.
Brooklyn & Montauk, 120 Broadway.
Brunswick & Western, 35 William st.
Buffalo, New York & Philadelphia, 15 Broad street.
Buffalo, Syracuse & Albany, 234 Broadway.
Burlington, Cedar Rapids & Northern, 43 New street.
Canada Southern, Grand Central Depot.
Carolina, Cumberland Gap & Chicago, 150 Broadway.
Cayuga & Susquehanna, 52 Wall street.
Central Branch Union Pacific, 195 Broadway.
Central of New Jersey, 119 Liberty street.
Central Pacific, 15 Broad street.
Charleston & Savannah, 12 West Twenty-third street.
Charlotteburgh & Green Lake, 98 Broadway.
Chesapeake & Ohio, 15 Broad street.
Chesapeake, Ohio & Southwestern, 15 Broad st.
Chicago & Alton, 52 William street.
Chicago & Atlantic, 6 Cortlandt street.
Chicago & Northwestern, 52 Wall street.
Chicago, Milwaukee & St. Paul, 68 William street.
Chicago, Rock Island & Pacific, 13 William street.
Chicago, St. Louis & New Orleans, 214 Broadway.
Chicago, St. Louis & Pittsburgh, 160 Broadway.
Chicago, St. Paul & Minneapolis, 52 Broadway.
Cincinnati, Selma & Mobile, 35 William street.
Cincinnati, Van Wert & Michigan, 161 Broadway.
Cincinnati, Virginia & Carolina, 52 Broadway.

AMERICAN STORE STOOL CO.,

27 Howard Street, NEW YORK. **270 and 272 Wabash Av., CHICAGO.**

Largest Desk Warerooms in the World.

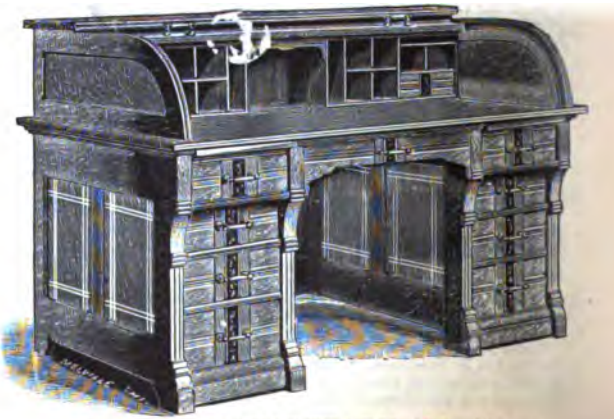
SPECIALTIES IN

RAILROAD DESKS, TABLES & CHAIRS.

Send for our Illustrated Catalogue.

RAILROAD TABLE, NO. 151.

RAILROAD FLAT TOP DESK, NO. 43.



RAILROAD SECRETARY, NO. 42.

NEW YORK—CONTINUED.

Cincinnati & Southeastern, 5 Cortlandt street.
Cleveland & Pittsburgh, 20 William st.
Cleveland, Youngstown & Pittsburgh, 15 Cortlandt street.
Continental, 15 Cortlandt street.
Danbury & Norwalk, 15 Nassau street.
Danville, Mocksville & Southwestern, 115 Broadway.
Delaware, Maryland & Virginia, 236 West street.
Delaware, Lackawanna & Western, 26 Exchange Place.
Denver & Rio Grande, 49 William street.
Des Moines & Ft. Dodge, 59 Wall st.
Dubuque & Sioux City, 52 William street.
East Tennessee, Virginia & Georgia, 110 Broadway.
Elizabethtown, Lexington & Big Sandy, 15 Broad.
Florida Transit & Peninsular and Florida Central & Western, 35 Wall street.
Flushing, West Shore & Central, foot of James street.
Freehold & New York, 61 Wall street.
George's Creek & Cumberland, 104 Broadway.
Green Bay & Minnesota, 52 Wall street.
Guyandotte Valley, 21 Nassau street.
Hannibal & St. Joseph, 195 Broadway,
Harlem River & Port Chester, Grand Central Depot.
Houston & Texas Central, 59 Wall street.
Illinois Central, 214 Broadway.
Indiana, Bloomington & Western, 115 Broadway.
Indianapolis, Decatur & Springfield, 2 Wall street.
International & Great Northern, 195 Broadway.
Kentucky Central, 15 Broad st.
Keokuk & Des Moines, 13 William street.
Lake Superior Ship Canal, Railway & Iron Company, 21 Nassau street.
Lake Shore & Michigan Southern, Grand Central Depot.
Lehigh Valley, 21 Cortlandt street.
Lehigh & Hudson, 161 Broadway.
Long Island, 115 Broadway.
Louisville & Nashville, 52 Wall street.
Louisville, New Albany & Chicago, 20 William st.
Lykens Valley, 13 William street.
Manhattan, 71 Broadway.
Memphis, Selma & Brunswick, 35 William street.
Metropolitan Elevated, 71 Broadway.
Mexican Central, 46 Exchange Place.
Mexican National, 47 William street.
Michigan Central, Grand Central Depot.
Michigan Northern, 10 Spruce street.
Missouri, Kansas & Texas, 195 Broadway.
Missouri Pacific, 195 Broadway.
Mobile & Ohio, 11 Pine street.
New York, Boston, Albany & Schenectady, 234 Broadway.
New York Central & Hudson River, Grand Central Depot.
New York City & Northern, 71 Broadway.
New York Elevated, 71 Broadway.
New York & Greenwood Lake, 21 Cortlandt street.
New York & Harlem, Grand Central Depot.
New York & Hempstead, 10 Spruce street.
New York & Manhattan Beach, 115 Broadway.
New York, Bay Ridge & Jamaica, 115 Broadway.
New York, Chicago & St. Louis, Grand Central Depot.
New York, Lake Erie & Western, 21 Cortlandt street.
New York, New Haven & Hartford, Grand Central Depot.
New York, Ontario & Western, 20 Nassau street.
New York, Pittsburgh & Chicago, 15 Cortlandt st.
New York, Susquehanna & Western, 93 Liberty street.
New York, West Shore & Buffalo, 17 Broad and 24 State street.
New York, Woodhaven & Rockaway, 68 Wall street.
Newfoundland, 48 Astor House.
Northern Pacific, 35 Wall street.
Northern of New Jersey, 187 West street.
Nova Scotia & Nictaux and Atlantic Central, 17 Warren street.
Ohio Central, 110 Broadway.
Ohio Southern, 115 Broadway.
Ohio & Mississippi, 54 William street.
Oregon Pacific, 16 Exchange Place.
Oregon Railway & Navigation Company, 19 Broad street.
Oregon & California, 19 Broad street.
Panama, 37 Wall street.
Peach Bottom, 137 Broadway.
Pennsylvania, 160 Broadway.
Pennsylvania Railroad in Maryland, 104 Broadway.
Peoria & Bureau Valley, 13 William street.
Peoria & Pekin Union, 195 Broadway.
Pittsburgh, Ft. Wayne & Chicago, 26 Nassau street.
Pittsburgh & Western, 3 Broad street.
Pittsburgh, Bradford & Buffalo, 15 Courtlandt street.
Port au Prince, 55 Broadway.

Richmond & Alleghany, United Bank Building.
Richmond & Danville, 20 Nassau street.
Rome, Watertown & Ogdensburg, 26 Exchange Place.
Sabine Pass & Texas Northern, 72 Broadway.
St. Joseph & Western, 115 Broadway.
Savannah, Florida & Western, 12 West Twenty-third street.
St. Louis, Alton & Terre Haute, 37 Wall street.
St. Louis, Iron Mountain & Southern, 195 Broadway.
St. Louis & San Francisco, 15 Broad street.
St. Paul & Duluth, 14 Nassau street.
St. Paul, Minneapolis & Manitoba, 63 William street.
Southern Pacific, 23 Broad st.
Staten Island, foot of Whitehall street.
Sterling Iron & Railway Company, 42 Pine street.
Sterling Mountain, 42 Pine street.
Texas Mexican, 45 William street.
Texas & New Orleans, 17 Broad street.
Texas & Pacific, 195 Broadway.
Toledo, Peoria & Western, 195 Broadway.
Union Pacific, 195 Broadway.
United New Jersey Railroad & Canal Co., 160 Broadway.
Wabash St. Louis & Pacific, 195 Broadway.
Washington & Atlantic, 52 Broadway.
West Side & Yonkers, 71 Broadway.
Western (U. S. Colombia, S. A.), 71 Broadway.

ASSOCIATIONS, ETC.:
Trunk Lines Association and Joint Executive Committee. Albert Fink, Commissioner, 346 Broadway.
Master Car Builders' Club Rooms, 113 Liberty street. Room Committee, L. Garey, Willis Davis and C. A. Smith.
National Railway Club Rooms, 46 Bond street.
Pullman Palace Car Company, 15 Broad street.
New York Central Sleeping Car Company (Wagner), Grand Central Depot, Forty-Second street.
Eastern Railroad Association, Grand Central Depot, Forty-second street.
American Society of Civil Engineers, 127 B. Twenty-third street.

GENERAL OFFICES: PHILADELPHIA

Allentown, 227 South Fourth street.
Baltimore Central, 223 South Fourth street.
Bell's Gap 209 South Third street
Buffalo Creek, 228 South Third street.
Buffalo, Pittsburgh & Western, 242 S. Third st.
Buffalo, New York & Philadelphia, 242 South Third street.
Catawissa, 424 Walnut street.
Cumberland & Maurice River, 201 Walnut Place.
East Broad Top Railroad & Coal Co., 320 Walnut street.
Elmira & Williamsport, 308 Walnut street.
Huntington & Broad Top Mountain, 417 Walnut street.
Lehigh & Lackawanna, 226 South Third street.
Lehigh Valley, 228 South Third street.
Lehigh & Susquehanna, 234 South Third street.
Little Schuylkill Navigation Railroad & Coal Co., 410 Walnut street.
Mill Creek & Mine Hill Navigation & Railroad Co., 407 Library street.
Mine Creek & Schuylkill Haven, 220 South Fourth street.
Mont Alto, 407 Library street.
Mount Carbon & Port Carbon, 407 Library street.
New York & Middle Coal Field, 238 South Third street.
Norfolk & Western, 233 and 337 Walnut street.
Ogden Mine, 237 South Third street.
Pennsylvania & New York Canal & Railroad, 228 South Third street.
Pennsylvania, 233 South Fourth street.
Philadelphia & Chester County, 119 South Fourth street.
Philadelphia & Erie, 233 South Fourth street.
Philadelphia & Reading, 227 South Fourth street.
Philadelphia, Germantown & Norristown, 12 Merchants' Exchange.
Philadelphia, Wilmington & Baltimore, 233 South Fourth street.
Schuylkill Valley Navigation & Railroad Co., 407 Library street.
Shenandoah Valley, 333 and 337 Walnut street.
State Line & Sullivan, 204 Walnut Place.
Wind Gap & Delaware Gap, 234 South Third street.

GENERAL OFFICES: PITTSBURGH, PA.

Allegheny Valley, corner Eleventh and Pike streets.
Baltimore & Ohio, Water and Ross streets.
Pennsylvania Company, Penn avenue and Tenth street.
Pittsburgh & Castle Shannon, 50 Carson street.
Pittsburgh & Lake Erie 77 Fourth avenue.
Pittsburgh, Virginia & Charleston, head of South Third street.
Pittsburgh & Western, Anderson and Ridge avenue, Allegheny.

GENERAL OFFICES: RICHMOND, VA.

Associated Railways of Virginia and Carolinas, No, 6 Shafer Building.
Chesapeake & Ohio, Main, corner of Ninth street.
Richmond & Allegheny, 1,111 East Cary street.

Richmond & Danville, Bank, corner of Tenth street.
Richmond & Petersburgh, Eighth, corner of Byrd street.
Richmond. Fredericksburg & Potomac, Broad, corner of Eighth street.

GENERAL OFFICES: SAVANNAH, GA.
Central of Georgia, West Broad, corner of New street.
Savannah, Florida & Western, foot of Liberty street.

GENERAL OFFICES: SAN FRANCISCO, CAL.
*Alameda & San Joaquin, foot of Market street.
*Arizona & Nevada R. & Navigation Co., 311 Montgomery street.
*Bodie & Benton, 29 Nevada Block.
*Bay & Coast, foot of Market street.
*California & Nevada, 328 Montgomery street.
California Central, 702 Market street.
California Northern, 609 Sacramento street.
California Pacific, northeast corner of Townsend and Fourth streets.
Carson & Colorado (Treasurer, etc.) 426 California street.
Central Pacific and Branches, corner of Fourth and Townsend streets.
Chico & Colusa, 44 Nevada Block.
Empire Coal Mine & Railroad, 401 Front street.
Eureka & Plaisade (President, etc.), 426 California street.
*Mendocino, 10 Market street.
North Pacific Coast, 330 California street.
Oregon Pacific, 302 Montgomery street.
Pittsburg, northwest corner of Sacramento and Davis streets.
*Petrero Avenue & North Coast, 533 Kearney street.
San Francisco & North Pacific, 430 Montgomery street.
*San Francisco & Ocean Shore, 702 Market street.
*San Joaquin Valley, 408 California street.
San Luis Obispo & Santa Maria Valley, 20 Market street.
Sierra Iron & Quincy, 27 Merchants' Exchange.
Sonoma Valley, 426 Montgomery street.
South Pacific Coast, foot of Market street.
Southern Pacific, of California, corner of Fourth and Townsend streets.
Virginia & Truckee, 426 California street.
State Railroad Commissioners, 14 Dupont st.

*Projected or under construction.

GENERAL OFFICES: ST. LOUIS.
Cairo & St. Louis, 411 Olive st.
Eureka Springs, 311 Olive st.

Illinois & St. Louis, 107 Chamber of Commerce.
Kansas City, St. Louis & Chicago, 919 Olive st.
Laclede & Creve Cœur Lake, 520 Pine st.
Missouri Pacific, Sixth and Locust sts.
Ohio & Mississippi, Chamber of Commerce.
St. Louis & San Francisco, Temple Building, corner Fifth and Walnut streets.
St. Louis, Alton & Terre Haute, 102 North Fourth street.
St. Louis, Bridge & Tunnel, Bridge Entrance.
St. Louis Coal Railroad, 509 Olive st.
St. Louis, Salem & Little Rock, 411 N. Third st.
Texas & St. Louis, Fourth and Pine streets.
Wabash, St. Louis & Pacific, corner of Sixth and Locust streets.
Walden's Ridge, 11 S. Third st.

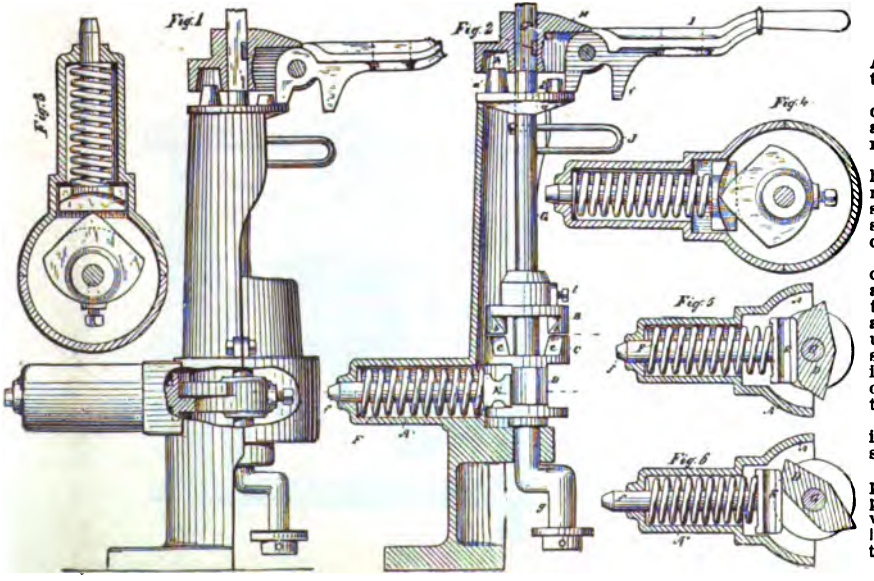
JERSEY CITY IRON WORKS,

M'F'RS OF BRAHN'S PAT. IMPROVED LORENZ & YARD SWITCHES, FROGS & CROSSINGS.

Switch Stands, Tie Bars, Head Blocks. Car Replacers and Turn Tables.

Office and Works: COR. HENDERSON AND 14TH STREETS, Jersey City, N. J.

JAMES BRAHN, Pres. WALTER C. MEEKER, Sec. A. J. MANNING, Treas.



BRAHN'S AUTOMATIC SWITCH STANDS.

The construction and operation of Brahn's Patent Automatic Switch Stand may be understood by reference to the plans and figures shown.

Fig. 1 is a plan, and Figs. 3 and 4 cross-section views of a stand designed for permitting a train to pass through a pointed switch when set wrong, and setting the switch right for the train so passing through.

The stand is so constructed that when operated by hand, the operator cannot lock the stand unless the switch-rails are fully moved; and when operated by the train, the stand is locked and the tension of the spring is equalized, so that the pressure on the points is not sufficient to break or bend them

Fig. 2 is a plan, and Figs. 5 and 6 cross-section views of a stand designed for permitting a train to pass through a pointed switch when set wrong and returning the switch to its original position after the train has so passed through, and like Fig. 1, cannot be locked when operated by hand until the point rails are fully moved. The tension of the spring in this stand is equalized the same as in Fig. 1. That is to say, the pressure is no greater when the points are opened sufficient to let the train through, than it is when the movement first commenced.

The position of the several parts of the stands as shown in Figs. 1 and 2 are, as when in the act of turning the stand by hand and have it half turned.

When locked in position, the handle or lever is depressed, and the staple that is secured to the main shaft, passes through said handle so that it can be locked down with an ordinary switch lock, and when so depressed and locked, connects the spring to the main crank shaft. It is then in position to be operated by the train.